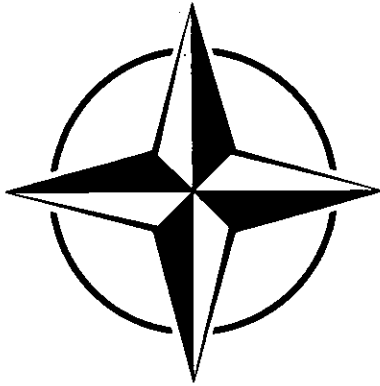




REPORT ON ALLIED CONTRIBUTIONS TO THE COMMON DEFENSE

MAY 1992



**A Report to the United States Congress
by the Secretary of Defense**

#447

FOREWORD

The 1992 *Report on Allied Contributions to the Common Defense* is published in response to the provisions of the *Department of Defense Authorization Act* of 1985, Title X, Section 1003, Public Law 98-525; the *Foreign Relations Authorization Act*, Fiscal Years 1986 and 1987, Title VIII, Section 812, Public Law 99-93; the *Foreign Relations Authorization Act*, Fiscal Years 1988 and 1989, Title XII, Section 1254, Public Law 100-204; the *National Defense Authorization Act*, Fiscal Years 1992 and 1993, Title X, Section 1046, and Title I, Section 117, Public Law 102-190.

As past reports have made clear, Allied contributions to the realization of shared international goals take many forms. Thus, previous reports have used a number of indices to describe Allies' performance. This year's report further broadens its scope, updating data provided last year on Allied support for Desert Shield and Desert Storm; expanding the discussion of defense cost-sharing; and reviewing the Administration's efforts to maintain equitable sharing of roles, risks, responsibilities and costs with our defense partners.

As this year's report demonstrates, the responsibility-sharing equation is becoming more equitable:

- **Force Contributions.** Based on current plans, U.S. forces in Europe will come down by around 50% by 1995, while Allies' reductions average about 25%, increasing their share of NATO's force posture in Europe.
- **Non-force Contributions.** Our Allies provided impressive material and financial support for Operations Desert Shield/Desert Storm. The Allies have undertaken major commitments of aid to developing nations, the countries in Central and Eastern Europe, and the newly-independent states of the former Soviet Union.
- **Defense Cost-sharing.** Japan and Korea support significant U.S. forces stationing costs. NATO has now declared that the operations and maintenance costs of U.S. reinforcement facilities are eligible for common funding under the NATO Infrastructure Program. Cost-sharing is also a key element of our ongoing discussions on defense cooperation with the members of the Gulf Cooperation Council.

The U.S. government is committed to the principle that defense responsibilities should be equitably shared among allies. The U.S. government recognizes and appreciates the full range of actions that our Allies take to support our mutual interests. Through Administration efforts, changes in Alliance force structure, commitments and strategies, and continuing Congressional support, we will continue to share roles, risks, responsibilities and costs of international security with our Allies.

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EXECUTIVE SUMMARY

This Report provides an assessment of the extent to which NATO nations, Japan, Korea, and other U.S. allies are assuming their fair share of roles, responsibilities, risks, and costs of protecting mutual security interests. It also reviews Administration and allied efforts to maintain an equitable sharing of security responsibilities as we adapt to a new international security environment.

OVERVIEW

The Administration remains committed to the principle that defense responsibilities should be equitably shared with our allies. Allied contributions to the realization of common international goals take many forms. The United States recognizes and appreciates the full range of actions that our allies take to support our mutual interests. These activities include maintaining capable military forces of their own, assigning those forces to coalition missions, political and financial support for shared objectives, and direct offsets to U.S. overseas stationing costs.

The United States enters into defense agreements with other nations and participates in NATO because doing so furthers vital U.S. security interests. Further, these alliances are important for sharing the responsibilities of mutual defense. Our allies relieve us of military burdens in many areas and support U.S. objectives worldwide. In addition, NATO's common funding programs and our bilateral cost sharing arrangements help reduce U.S. defense costs. International defense agreements, and the resulting obligations and contributions of each party, will continue to be the principal vehicles through which the responsibilities and benefits of mutual defense are allocated.

EVALUATION OF FAIR SHARES

There is no single, universally accepted formula for calculating what constitutes equitable sharing of the roles, responsibilities, risks, and costs of defense. National contributions can take many forms, some of which--such as defense spending, military manpower, and cash contributions to offset stationing costs--can be easily measured. There are also other national contributions that, although perhaps less tangible and more difficult to quantify, are nevertheless important aspects of burdensharing. These include political and financial support for shared international goals; the social, economic, and political costs of hosting foreign troops; and in-kind contributions to mutual defense. Each burdensharing indicator--as well as assessments of overall performance--must be viewed in light of the ally's political, economic, geographic, and strategic situation.

MEASURING PROGRESS

The dramatic events in Europe over the past several years and the success of our containment strategy have laid the Cold War to rest, and have created the opportunity for substantial cutbacks in U.S. defense efforts. With respect to U.S. forces stationed in Europe, we have brought home nearly 90,000 military personnel and 100,000 dependents just since 1990, and have identified over 450 sites for closure. With additional reductions planned of 75,000 troops and another 100,000 dependents, by 1995 the burden of stationing U.S. forces in Europe will be cut by more than half from Cold War levels. As further indication of the declining level of U.S. resources dedicated to defense in the years ahead, we project that

by 1997 U.S. defense spending will constitute roughly 3.5 percent of gross domestic product (GDP)--its lowest level since before World War II--compared to 5.7 percent in 1990.

In the wake of these dramatic changes in the international security environment, and due to Administration negotiation efforts, the United States will also benefit from favorable changes in burdensharing relationships with our allies. These developments include: a shifting allocation of defense responsibilities within NATO and in our bilateral relationship with Korea; increased cost sharing contributions from our allies; and greatly increased efforts by allies in support of shared foreign policy goals--particularly the economic recovery of Central and Eastern Europe and the former Soviet Union.

Giving greatest weight to such factors as percent of GDP devoted to defense and force contributions as a function of ability to contribute, the burdensharing efforts of Turkey, the United Kingdom, Korea, Greece, and France look particularly strong. Germany, Norway, Portugal, and the Netherlands, and, to a lesser extent, Belgium, Italy, and Spain also make commendable contributions in many areas. Japan's host nation support contributions are especially noteworthy, although the percentage of Japan's GDP devoted to defense is relatively small for political and constitutional reasons. The dramatic transformation in the post-Cold War security environment requires that we consider a broad range of additional activities in assessing burdensharing performance. Among the most important are:

Allies' Force Contributions

- o Changes in NATO force structure are leading to significant burdensharing adjustments. Planned cutbacks in major categories of *total* U.S. ground, air, and naval forces, reported in the NATO Defense Planning Questionnaire, range between roughly 15 and 30 percent. These reductions match or, in many cases, exceed (in percentage terms) those decreases projected for our NATO allies in the aggregate. In addition, planned cuts in U.S. *Europe-based* forces--of between 40 and 60 percent--are at least double the aggregate non-U.S. NATO reductions, and in some categories are much larger. As a consequence of these planned changes, the future non-U.S. share of *total* NATO forces is projected to increase in most key force categories, while the non-U.S. share of *Europe-based* NATO forces will increase across all major categories.
- o In the Pacific, South Korea is moving into the leading role in our military alliance for the defense of the Korean peninsula, and will continue its commitment to force modernization and assumption of ever-increasing defense responsibilities. Japan is also improving its military capabilities for defense of sea lines of communication.
- o Aside from offering increased access for U.S. forces and prepositioned equipment and materiel, several members of the Gulf Cooperation Council (GCC) are modernizing their forces so that they may play an increased role in maintaining stability in the strategically important Persian Gulf region.

Sharing of Roles, Responsibilities, Risks, and Costs within NATO

- o NATO's new strategic concept stresses that "the achievement of the Alliance's objectives depends critically on the equitable sharing of roles, risks, and responsibilities, as well as the benefits, of common defense." As NATO reduces the size of its standing forces, it is creating multinational units as a visible and practical way of strengthening Alliance cohesion and solidarity, while preserving the capability to react rapidly and with broad participation to a developing crisis. Further, European members of NATO are exploring how to strengthen the "European pillar" as a means of enhancing their contribution to European security.

Host Nation Support

- o Allies provide important host nation support (HNS) in the form of cash and in-kind contributions that reduce the cost of U.S. forward military presence.
- o Japan currently funds virtually all DoD in-country construction costs and provides, at no charge, land and facilities used by U.S. forces. Under a new cost sharing agreement, Japan is assuming all labor and utilities costs. By 1995, Japan will bear virtually all the costs of stationing U.S. forces on its soil, except for salaries of U.S. personnel and certain other costs whose transfer would not be appropriate.
- o South Korea also provides free-of-charge land and facilities for U.S. use; logistics support including ammunition storage and equipment maintenance; and manpower augmentees to U.S. Army units (KATUSAs). In addition, Korea has agreed to assume one-third of won-based stationing costs by 1995--a category that includes labor, construction, and operations and maintenance costs.
- o The NATO allies share construction and operating costs through the Infrastructure Program and the Military and Civil Budgets. Further, NATO has recently agreed that maintenance of U.S. reinforcement facilities in Europe is eligible for common funding under the Infrastructure Program. Germany, which hosts the largest concentration of U.S. forces in Europe, provides significant in-kind support, the most valuable of which is the land and facilities provided at no cost to U.S. forces. In addition, Germany helps offset the cost of police, fire, and public health services provided to U.S. military communities and helps pay the cost of basing U.S. forces in Berlin. Finally, German contributions toward the U.S.- German Wartime Host Nation Support agreement help create vital combat service support capabilities.
- o Host nation support is also an important element of the defense cooperation agreements being developed in the Persian Gulf region.

Contributions to Operations Desert Shield/Storm

- o Without allied combat forces, facilities, and support for deploying forces, as well as their financial assistance and political support, the achievement of U.N. goals in Kuwait would have been impossible. France and the United Kingdom deployed large ground forces and, along with Canada and Italy, also sent combat air units. Every NATO nation with naval forces deployed naval units to the region; other countries committing substantial combat forces to the coalition military effort included Egypt, Syria, Saudi Arabia, and Kuwait. NATO wartime reinforcement infrastructure and procedures proved invaluable in deploying the U.S. VII Corps from Germany to Saudi Arabia.
- o Worldwide contributions of cash and in-kind support to the United States amounted to a total of \$53.7 billion. Among the Gulf states, Saudi Arabia contributed nearly \$17 billion, Kuwait over \$16 billion, and the United Arab Emirates over \$4 billion. Additional donors included Japan (over \$10 billion), Germany (nearly \$6.5 billion), and Korea (\$251 million). Many of these countries also made substantial cash and in-kind contributions to support other nations' commitment of forces or to help meet refugee and humanitarian needs.

Economic and Development Assistance

- o Allies contribute significant development assistance worldwide. In 1990, our NATO allies provided \$31 billion in official development assistance (ODA), while Japan provided \$9 billion. In addition, although precise accounting is difficult because of the many and varied programs underway, our NATO allies and Japan committed over \$16 billion in grants and loans to Central and Eastern Europe during the January 1990-June 1991 period.
- o Our NATO allies, Japan, and Korea have also provided important economic assistance to the Soviet Union and its former republics over the past two years. Although it is still too early for a thorough accounting, unofficial estimates by the European Commission indicate that by the end of 1991, around \$70 billion of various types of economic assistance had been pledged, of which Germany has contributed about one-half (including substantial amounts associated with German unification).

DEFENSE COST SHARING

Congressional attention has recently focused on one particular dimension of the burdensharing equation: defense cost sharing, defined as the cash and in-kind contributions that allies make to help offset the costs of stationing U.S. forces on their territory. In 1991, Congress passed legislation (Section 1046 of P.L. 102-190) calling on the Administration to consult with U.S. defense partners to seek to achieve agreements on equitable defense cost sharing. We recognize the concern in Congress over defense cost sharing.

Arriving at what constitutes equitable sharing of the costs of defense requires evaluation of many factors, including the purpose and nature of the U.S. overseas presence; each ally's economic well-being; their other military, political, and economic contributions to shared international goals; and the cooperative roles and obligations established in bilateral and multilateral defense agreements. First and foremost among these factors, however, is the strategic benefit that the United States itself realizes from the defense agreement. This factor is especially important when determining what, if anything, allies should contribute to supporting U.S. forward presence.

The United States stations troops and prepositions equipment in Europe, the Pacific, and elsewhere in support of U.S. security interests. History clearly shows that our military presence in Europe has had a stabilizing influence while benefitting our own security. The same is true of U.S. forces stationed in North East Asia and U.S. prepositioning and access agreements in the Persian Gulf, which contribute to the security of regions that are increasingly important to the well being of the United States.

BILATERAL COST SHARING: PERFORMANCE AND NEGOTIATIONS

Japan currently pays almost all military construction costs and leases for land used by U.S. forces, and contributed approximately \$3.3 billion in host nation support to the United States over the 12-month period ending March 1992. As previously reported, in 1991 the Administration negotiated a new cost-sharing agreement under which Japan will assume approximately three-quarters of all U.S. stationing costs (less salaries for U.S. military and civilian personnel) over the next five years. Japan will also assume full payment for all U.S. Forces Japan (USFJ) utilities, and salaries and benefits for Japanese employees working for U.S. forces.

The Korean cost sharing program amounted to \$180 million in 1992 and will be \$220 million in 1993, up dramatically from \$70 million in 1990. Korea has agreed to assume one-third of the won-based U.S.

stationing costs by 1995. Won-based costs include construction, labor cost sharing, and certain logistics and operations expenses, but do not count the value of rent-free land and manpower augmentation. By 1995, Korean cost sharing may be over \$300 million, depending on our force presence and actual stationing costs at that time.

Cost sharing is also being discussed in connection with new defense cooperation agreements in the Persian Gulf. The recently-concluded agreement with Kuwait is an example of the willingness of our Gulf partners to share the burdens of the common defense. Discussions are still going on with other Gulf states, so it is premature to report on their cost sharing implications.

COST SHARING IN NATO

Defense burdensharing in NATO is exhibited mainly through members' assigning military forces to Alliance roles and missions, and participation in the Alliance force planning process and multinational command structures. NATO allies do, however, provide important support for U.S. forces in Europe that relieves the U.S. Government of substantial stationing costs. Chief among these benefits is the rent-free land and facilities that virtually every NATO ally furnishes for use by the U.S. military. European governments typically waive taxes, customs duties, and other such fees on the local purchases and activities of U.S. forces. In addition, many governments provide free-of-charge services such as site security, fire protection, access to local social services, use of training areas, and certain operations and maintenance services.

Existing NATO cost sharing programs, such as the Infrastructure Program and the Military Budget, are adapting to meet new Alliance needs. NATO, in response to a U.S. request, is using re-programmed Infrastructure funds to pay for the transfer among allies of excess military equipment limited by the Treaty on Conventional Armed Forces in Europe (CFE). NATO has also accepted a U.S. proposal under which the Alliance would assume--again through the Infrastructure Program--the annual operations and maintenance costs of facilities that support U.S. reinforcement of Europe. NATO has agreed that these costs are eligible for collective funding. Programming and funding decisions may be made in time for Alliance contributions to begin during Fiscal Year 1993.

The Administration also intends to raise bilateral cost sharing issues with various NATO allies, focusing on stationing costs to include labor cost sharing and utilities and other support costs. However, negotiating new cost sharing agreements in Europe today will be extremely difficult. Every NATO nation is reshaping defense policies and budgets to meet new circumstances. Also, several of our European allies--most notably Germany--have assumed significant new burdens in the form of assistance to Central and Eastern European countries and support for the withdrawal of former Soviet forces. These new contributions must be factored into the overall burdensharing equation.

As we pursue improved cost-sharing within the Alliance, it is important to recognize fundamental differences between the sharing of roles, responsibilities, risks, and costs in NATO, and U.S. cost sharing with Japan. NATO is a multilateral alliance with an international headquarters, an integrated military command structure, and a well-developed system of assigning defense assets--by country--to coalition roles and missions. Further, NATO has its own cost sharing programs, such as the Infrastructure Program and the Military Budget. The Japanese constitution, on the other hand, limits Japan's military contributions to our bilateral relationship, thereby making financial support a relatively more important burdensharing tool.

Nor does the financial support for Operation Desert Shield/Storm--an extraordinary and unique burdensharing case study--provide a model for similar agreements with NATO allies to underwrite the full costs of implementing existing bilateral and multilateral defense agreements. During the Gulf War, the largest financial contributors--Saudi Arabia, Kuwait, Japan, and Germany--focused their efforts on cash contributions because their political situations or lack of appropriate military capabilities prevented them from providing similar levels of support through other means. On the other hand, NATO already incorporates burdensharing mechanisms obligating each participant to assign substantial military forces to the Alliance. Because of these existing arrangements and the strategic benefits that the United States realizes from its participation in NATO, it would be inappropriate and counterproductive for the United States to seek to shift the full costs of its forward presence to the European allies.

CONCLUSION

Equitable sharing of the roles, responsibilities, risks, and costs of protecting mutual security interests is a goal of U.S. international security policy. Both because of the Administration's negotiating efforts and because of allies' increased support for peaceful change in Central and Eastern Europe and changing force structures in NATO, the responsibility sharing equation is being made more equitable.

In assessing defense burdensharing, however, the United States must always attend to its own share of the responsibilities of collective defense. We cannot expect our allies to agree to new burdensharing arrangements if the United States is reluctant to maintain adequate support for existing collective programs. Nor can improved defense cost sharing be negotiated against a backdrop of calls for drastic budget and troop cuts, which raise doubts about our underlying commitment to collective security.

I. INTRODUCTION AND OVERVIEW

PURPOSE

This Report responds to legislation requesting, among other things, a Department of Defense assessment of the extent to which the individual NATO nations (including the United States) and Japan are contributing their fair share of the common defense burden. Due to increasing interest in burdensharing in the Pacific, we have included in this year's Report an assessment of contributions to the common defense by the Republic of Korea (ROK). The Report analyzes various burdensharing indicators and factors, offers conclusions as to recent and current performance, and describes recent and ongoing actions to achieve an equitable distribution of roles, risks, and responsibilities.

EVALUATION OF FAIR SHARES

There is no single, universally accepted formula for calculating each nation's "fair share" of the collective defense burden. National contributions assume many forms, requiring different measures and analyses. Some forms of burdensharing, such as defense spending and military manpower, permit relatively precise calculation. Other important but less tangible contributions, such as host nation support and national support for Alliance initiatives, must be evaluated more subjectively. In theory, any contribution which enhances peace and stability is part of a nation's burdensharing effort. Conceptually, benefits received are also a factor in burdensharing assessment. In this regard, the most important benefit received--over forty years of relative peace and prosperity--is shared by all NATO members, Japan, and the Republic of Korea.

The traditional burdensharing relationship within NATO, like virtually every other aspect of Alliance affairs, will continue to undergo transformation in the coming years. The nature and timing of these changes will be linked to major recent developments in the European security environment which, although still surrounded by many uncertainties, appear to offer great promise for a more stable and secure future for Europe.

OVERALL ASSESSMENT

Our evaluation of the overall burdensharing efforts of each of the NATO nations, Japan, and the Republic of Korea is based on internal Department of Defense assessments, which draw extensively on NATO data and evaluations, plus analyses from U.S. embassies and regional commands. Our conclusions take into account a variety of factors, with heaviest weight given to the defense spending/gross domestic product ratio (see Chapter II for greater detail). Chart I-1 (at the end of this chapter) characterizes country performance in selected key areas.

Peace, security, and stability in Europe have always been based on more than just the military and defense efforts of Alliance members. Especially now, as we enter the post-Cold War era, it is essential that assessments of burdensharing performance take this broader definition of security into account. The costs of improving security and stability take different forms and can include, for example, foreign assistance to strategically significant countries, including the former Soviet Union and the countries of Central and Eastern Europe, as well as the expenses incurred relative to the unification of Germany and removal of former Soviet troops from eastern Germany. It is also clear that the military forces, logistics

support, and financial and in-kind contributions our allies provided for Operation Desert Shield/Storm represent a significant aspect of recent burdensharing efforts. Finally, our allies' willingness to underwrite U.S. stationing costs through cash and in-kind contributions demonstrates their continuing support for U.S. forward presence.

Looking to the future, another key factor in assessing burdensharing performance will be the outcome of force structure adjustments now under consideration by virtually all Alliance nations, including the United States. Based on our latest information on nations' evolving defense plans, we have included in this year's evaluation a review of NATO's projected force structure for the mid-1990s time frame.

Certain elements that have traditionally been a key part of the burdensharing assessment--such as force goal performance, CDI force goals, and munitions sustainability--are in transition as a result of the sweeping changes in Europe, and thus receive less emphasis in the current Report.

EFFORTS BY U.S. ALLIES

As illustrated in Chart I-1 and portrayed in Chapter II and other sections of the Report, our review indicates wide differences among the burdensharing contributions and force improvement efforts of the individual nations. When all factors are taken into account, but giving greatest weight to defense spending as a share of GDP, the burdensharing efforts of Turkey, the United Kingdom, Korea, Greece, and France look particularly strong. Germany, Norway, Portugal, and the Netherlands, and, to a lesser extent, Belgium, Italy, and Spain also make important contributions in many areas. Japan's host nation support contributions are especially noteworthy, although the percentage of Japan's GDP devoted to defense is relatively small for political and constitutional reasons. Highlights of our evaluation for selected indicators and factors are summarized below.

Share of Gross Domestic Product (GDP) Allocated to Defense. A widely used indicator of defense burdensharing, this measure combines the most comprehensive indicator of defense effort (defense spending) and the most comprehensive measure of ability to contribute (GDP). While this indicator receives heaviest weight, it must be evaluated in the context of the other important burdensharing measures and factors. Top allied performers include Greece, Turkey, the Republic of Korea, the United Kingdom, and France, with percentages of GDP allocated to defense that range from almost 6 percent to about 3.5 percent. At the other end are Italy, Denmark, Canada, Spain, Luxembourg, and Japan, with percentages in the two to one percent range.

GDP per Capita. A widely accepted indicator of economic prosperity and standard of living, this measure provides valuable insights on the ability of individual nations to make defense contributions. Denmark, Norway, Germany, Japan, and Luxembourg are the highest ranking allies on this measure of economic strength, with per capita GDPs ranging from over \$25,000 to about \$23,000, followed closely by Canada and France, in the \$22,000 to \$21,000 range. The United Kingdom, with a GDP per capita of just under \$17,000, ranks lowest among all of the European Central and Northern Region countries. Poorest economic performance as reflected by this indicator is recorded by Greece, Portugal, the Republic of Korea, and Turkey, with per capita GDPs ranging from just over \$6,500 to about \$2,000.

Defense Manpower as a Share of Population. This measure reflects the percent of population accounted for by active duty military and civilian defense personnel. Highest percentages are achieved by Greece, the Republic of Korea, Norway, and Turkey (ranging from 2.3 to 1.5 percent) and France, Belgium, and Germany (ranging from 1.2 to 1.1 percent). Lowest percentages--ranging from 0.5 to 0.2 percent--are attributable to Canada, Luxembourg, and Japan. When committed reserves are included,

Norway, Denmark, Germany, the Netherlands, Greece, Belgium and France show marked performance increases.

Output Indicators and Alliance Force Improvements. When national holdings of major ground, air, and naval systems are related to country ability to contribute, as measured by GDP, high burdensharing rankings are recorded by Greece, Turkey, the Republic of Korea, and Portugal. Other strong performers include the Netherlands, the United Kingdom, Norway, Denmark, and Belgium. Lowest rankings are indicated for Canada, Japan, and Luxembourg. Also, the United Kingdom and France show up well on the basis of their nuclear contributions, while Germany and the United Kingdom have, heretofore, consistently ranked high among our allies in meeting NATO force improvement objectives. Japan is making steady progress toward achieving the military capability to fulfill its agreed defense mission, i.e., the defense of its territory, including adjacent air and sea lanes within 1,000 nautical miles.

Other Factors. Particularly strong or noteworthy contributions are provided by individual allies in a variety of other burdensharing areas. These include host nation support, military assistance to NATO nations with developing defense industries (DDI) (i.e., Greece, Turkey, and Portugal), etc. Often, these contributions help offset shortfalls in countries' performance in other, more traditional, measures of burdensharing performance. Country-by-country examples, important for their absolute magnitude and/or because they represent a significant effort relative to the nation's ability to contribute, include:

- **Belgium:** Host nation support; Operation Desert Shield/Storm efforts; development assistance; assistance to Central/Eastern Europe.
- **Canada:** Operation Desert Shield/Storm efforts; development assistance.
- **Denmark:** Host nation support; Operation Desert Shield/Storm efforts; development assistance (substantial); economic aid to Central/Eastern Europe (substantial).
- **France:** Operation Desert Shield/Storm efforts (very substantial); development assistance (substantial); assistance to Central/Eastern Europe.
- **Germany:** Host nation support (substantial); civilian assets planned for use in wartime; host to the largest concentration of foreign troops in the world; military assistance to DDI nations; economic aid to Central/Eastern Europe (very substantial) and the former Soviet Union (very substantial); Operation Desert Shield/Storm efforts; development assistance.
- **Greece:** Operation Desert Shield/Storm efforts; assistance to Central/Eastern Europe.
- **Italy:** Host nation support; Operation Desert Shield/Storm efforts; development assistance; economic aid to Central/Eastern Europe.
- **Japan:** Host nation support (very substantial); development assistance (very substantial in absolute amount); sustained growth in real defense spending; Operation Desert Shield/Storm efforts (substantial financial assistance); economic aid to the former Soviet Union.
- **Korea:** Host nation support (substantial); sustained high rates of growth in real defense spending; Operation Desert Shield/Storm efforts; economic aid to the former Soviet Union.

- **Luxembourg:** Host nation support; sustained high rates of growth in real defense spending; economic aid to Central/Eastern Europe.
- **Netherlands:** Host nation support; military support to DDI nations; Operation Desert Shield/Storm efforts; development assistance (substantial); economic aid to Central/Eastern Europe.
- **Norway:** Host nation support; civilian assets planned for use in wartime; relatively high rates of real growth in defense spending; Operation Desert Shield/Storm efforts; development assistance (substantial); economic aid to Central/Eastern Europe.
- **Portugal:** Operation Desert Shield/Storm efforts.
- **Spain:** Operation Desert Shield/Storm efforts.
- **Turkey:** High real defense spending growth in recent years; Operation Desert Shield/Storm efforts (very substantial).
- **United Kingdom:** Host nation support; Operation Desert Shield/Storm efforts (very substantial).

U.S. EFFORTS

The United States allocates to defense the second highest share of gross domestic product among all nations examined (just under six percent in 1990), provides most of the nuclear forces for the Alliance, and ranks high on most of the major indicators addressed in this Report. At the same time, however, we rank relatively high in economic development and standard of living, as reflected by per capita gross domestic product (\$21,400). Moreover, the gap between the United States and our allies in share of GDP allocated to defense has been declining in recent years, and through the middle of the decade the United States will draw down its troops in Europe by over 50 percent, thereby significantly reducing our share of NATO's total *Europe-based* forces. In assessing differences between U.S. and allied performance in these various indices, several factors must be considered. Unlike its Alliance partners, the United States is a global superpower, a role that brings with it particular responsibilities as well as benefits. Further, the United States establishes its force structure and defense budget and maintains forward military presence in order to support U.S. national security interests. Alliances are an important mechanism for protecting those interests.

RECENT AND ONGOING EFFORTS TO ENSURE EQUITABLE BURDENSARING

Recent developments in East-West relations and the prospect of contingencies such as Operation Desert Shield/Storm provide increased opportunities for ensuring equitable distribution of roles, risks, responsibilities, and costs among allies. As we strive to maintain security at a balanced level of forces necessary to ensure a credible defense, we must continue to ensure that our defense, arms control, and burdensharing objectives remain consistent with this objective.

Many favorable developments have occurred in the European security environment over the last several years. At the same time, however, the ethnic, economic, and political turmoil stemming from changes throughout Central and Eastern Europe—including the republics of the former Soviet Union—has given rise to considerable instability that may not be resolved in the foreseeable future. In addition, the rapid pace of change in Europe demands that we and our allies work closely together to ensure that the necessary

elements of Western security--stability, predictability, and continuity--are protected. This objective is central to NATO's new military strategy.

Against this background, we continue to seek more effective and efficient ways to maintain and improve our collective security arrangements. Indeed, with the reduced U.S. presence in Europe planned for the years ahead, the new NATO strategy encourages the development of a European security identity and the assumption by the European NATO nations of a greater degree of responsibility for the defense of Europe. The strategy recognizes that "the achievement of the Alliance's objectives depends critically on the equitable sharing of roles, risks, and responsibilities, as well as the benefits, of common defense."

THE COMMITMENT TO COMMON DEFENSE

As illustrated by four decades of successful deterrence on the European land mass and in North East Asia, and now again in the recent experience of Operation Desert Shield/Storm, U.S. leadership is essential for the community of nations to marshal its collective strength on behalf of shared concerns. A strong common defense will depend upon the continuing commitment of the United States and its allies to maintain capable forces, with particular attention to modernization, sustainability, training, mobility, and reinforcement capabilities.

In this context, it is essential that NATO maintain its resolve and solidarity as the Alliance plans for the implementation of conventional arms reduction agreements, especially in implementing a force posture that will make the best use of residual capabilities.

Desert Shield and Desert Storm

The Gulf War, which was the subject of a preliminary assessment in last year's *Report on Allied Contributions to the Common Defense*, remains a significant and unprecedented illustration of international burdensharing. Appendix C provides a discussion of allied assistance to defray incremental U.S. Gulf War costs. A summary of combat and combat support contributions by the NATO allies follows.

- Virtually all NATO members committed combat forces in the Gulf crisis, or provided support for those forces. Every NATO member with naval units made naval deployments in support of the multi-national effort.
- France and the United Kingdom deployed large ground forces to the Gulf. Canada, France, Italy, and the United Kingdom sent combat air units that participated in daily operations against Iraq. The Dutch provided air defense batteries to help Israel.
- Turkey, Spain and the United Kingdom allowed combat operations to be staged from their territory; France and Greece allowed aerial tanker basing. Belgium, the Netherlands, and Germany provided extensive transportation assistance to deploy the U.S. Army VII Corps from Germany.

NATO's long-standing defense cooperation, including its integrated command structure, its common doctrine and tactics, its military infrastructure, and its equipment standardization/interoperability, proved vital to our success in achieving Operation Desert Shield/Storm objectives. Several principles of NATO's emerging strategy were demonstrated in Operation Desert Shield/Storm--including multinational forces, rapid force generation, modern munitions, and strategic mobility--with our NATO allies providing substantial assistance to our successful operations.

The performance of forces normally committed to NATO reaffirmed two lessons. First, maintaining a high state of readiness, coupled with many contributions from our allies, made coalition air and ground campaigns a success. Second, maintaining capable forward-based forces and established infrastructure in Europe provides critical capabilities to our national strategy for dealing with worldwide contingencies.

Our Pacific allies also played a key role in the success of Operation Desert Shield/Storm. Japan provided roughly \$11 billion to the multinational forces in the Gulf, of which some \$10 billion was to offset U.S. costs. Assistance was provided in the areas of transportation expenses, in-kind materiel and equipment support, and in-kind airlift and sealift. The Japanese worked closely with U.S. Forces Japan and CENTCOM to identify requirements for equipment, materiel, and supplies. Korea also provided cash and in-kind support to assist coalition efforts and front line states during the Gulf War. In addition to its financial support for the United States, Korea dispatched a military medical team and five C-130 aircraft with support personnel to the Gulf.

In summary, the success of Operation Desert Shield/Storm could not have been achieved without the far-reaching assistance of our allies--politically, diplomatically, militarily, and financially.

ONGOING INITIATIVES

As illustrated by the foregoing, the overall objective of U.S. burdensharing efforts is to continue to work closely with our allies to devise and implement more cost effective and equitably shared defense roles, risks, responsibilities, and costs while maintaining a credible deterrence. In this regard we have been successful in putting the issue of burdensharing before NATO for consideration by our allies. This objective is especially critical now as the changing international security environment and implementation of the CFE Treaty create increased pressure for defense budget reductions.

U.S. efforts have served to focus allies' attention on the need to (1) bring the sharing of burdens and benefits into line with current political and economic realities; (2) improve efficiency and flexibility in resource allocations; (3) define and implement broader applications of the common funding principle; (4) seek more effective use of special national capabilities and resources through improved rationalization and division of labor, and (5) share, where appropriate, the costs of U.S. forward presence.

The Ambassador-at-Large for Burdensharing continues to focus Administration efforts to ensure a more balanced sharing of defense responsibilities and costs among members of NATO, Japan, the Republic of Korea, and other allies of the United States. Since assuming his office, the Ambassador has played an important role in raising the consciousness among allies and U.S. agencies of the necessity, opportunities, and modalities for sharing responsibilities and costs associated with global security and stability. As the effort continues, specific burdensharing goals and objectives are being coordinated within the U.S. government and, where appropriate, negotiations are underway with allies across the broad range of burdensharing related issues.

The Departments of Defense and State--bilaterally with European and Asian allies, and in NATO fora--have ensured that burdensharing remains a priority concern.

There are no "quick fixes" for burdensharing. Some near-term results can be achieved but measured progress requires careful coordination and long term effort. Unilateral actions intended to simply reduce commitments would weaken our alliances, reduce cohesiveness and solidarity within these structures, and ultimately damage U.S. security interests. In the long run, however, the burdensharing equation is shifting in our favor. Korea is assuming the lead role in our defense alliance; Japan has agreed to substantially

increase its host nation support. Within NATO, a stronger European pillar is evolving, and the allied share of forces in Europe is projected to increase following sizable U.S. reductions. Adjustments in the roles and responsibilities for the common defense will contribute to this evolution.

Sharing of Military Responsibilities

During 1991, NATO unveiled a new strategy that anticipates reduced force levels in light of the rapidly changing threat environment, budgetary constraints, and the CFE Treaty. At the same time, NATO recognizes the volatility and uncertainty of the post-Cold War era. NATO's new strategic concept, adopted at the Rome Summit in November 1991, reiterates NATO's fundamental purposes of deterrence and defense and stresses that "the achievement of the Alliance's objectives depends critically on the equitable sharing of roles, risks, and responsibilities, as well as the benefits, of common defense." The development of a "European security identity" is also encouraged, to the extent that it will permit the European NATO nations to assume a greater degree of responsibility for the defense of Europe.

Consistent with NATO's new strategy, virtually all NATO nations, including the United States, plan to scale back their force structure and/or equipment holdings. Planned U.S. reductions across the major categories of *total* NATO-reported ground, air, and naval forces match or, in many cases, exceed (in percentage terms) those drawdowns projected for the non-U.S. NATO allies in the aggregate. Planned cuts of U.S. forces stationed *in Europe* significantly exceed planned reductions for our allies as a whole. Consequently, the future U.S. share of *total* NATO forces is projected to decline in many key force categories, while the U.S. share of *Europe-based* NATO forces will decrease across all major categories. (See Chapter II for additional details.)

The Alliance's new strategic concept acknowledges that, given the extended warning time afforded by the breakup of the Warsaw Pact and the Soviet Union, member nations can rely more heavily upon reserve forces. As the United States demonstrated in Operation Desert Storm, a mix of active and reserve forces can respond effectively in a crisis. To do so, however, reserve components must be properly organized, trained, and equipped. Although the situation varies by country, many of the NATO allies have fallen short in these areas heretofore. The nature of the future force structure makes it especially important for countries to improve reserve capabilities by providing adequate training and equipment for their reserve personnel.

Among our Pacific allies, Japan continues to make steady improvements in its homeland defense and sea-lane protection capabilities. Japan's current five-year Mid-Term Defense Plan (MTDP), which became effective in April 1991, includes major new equipment purchases (including AWACS, AEGIS destroyers, and MLRS), as well as emphasis on enhancing support and logistics functions, intelligence, and command and communications capabilities. Areas of particular importance for the Republic of Korea include early warning capabilities, emergency operations, and rear-area defense.

Host Nation Support. U.S. allies in Europe and the Pacific provide important peacetime host nation support. Japan pays rents and leases and supplies government-owned land for U.S. forces at no cost to the U.S. government. Korea provides rent-free land and facilities. Further, Korea contributes military manpower to augment U.S. forces and furnishes logistics support.

Germany also provides significant host-nation support to help offset the costs of stationing U.S. forces there. Categories include forgiven rents and leases, support and services provided to U.S. family housing, an extensive wartime host nation support program, and Berlin occupation costs. Virtually all other NATO allies also furnish land use for U.S. bases and/or material storage facilities. In addition, our WHNS

agreements with these countries provide us with extensive cost avoidances. The provisions for mobilizing their local nationals, and the use of their ports, airfields, lines of communication (LOCs), and civilian transportation infrastructure for reinforcing and supplying our forces in wartime, relieve the United States of the need to maintain massive combat support forces to accomplish these missions. Several NATO allies also host U.S. combat force presence on a permanent, rotating, or periodic basis.

Sharing of Non-Military Responsibilities

Most of the industrialized nations addressed in this Report also make important non-military contributions to Western security and stability. In 1990, for example, NATO nations combined to provide over \$42 billion in assistance to developing countries (formally designated "official development assistance," or ODA). In addition, since the emerging economies of Central and Eastern Europe are not eligible for ODA, the European Community (EC) Commission began in 1989 to coordinate assistance in support of political and economic reforms in those countries through a process known as the G-24. With the exception of Korea, every nation included in this Report participates in this process, and makes contributions in the form of trade and investment credits, grants, and loan guarantees. During the eighteen-month period ending June 1991, non-U.S. NATO nations made current and future commitments (including grants, loans, and credits) to Central/Eastern European nations totalling over \$20 billion, directed into areas such as food aid, medical supplies, management training, environmental projects, market access/trade, and investment.

Economic assistance programs are a particularly important element of Japan's security policy. Efforts in this area have demonstrated Japan's continuing commitment to support U.S. and Western interests. In 1990, Japan was the world's third-largest donor of foreign assistance behind the United States, with contributions of roughly \$9 billion. (When calculated as a percentage of GDP, Japan's ODA is roughly comparable to the weighted average of all NATO nations combined.) In addition, Japan has been an active participant in the G-24 process, committing over \$2.5 billion in grants, loans, and credits to Eastern European nations during the January 1990-June 1991 time period. Japan's non-military assistance programs represent a major contribution to the economic development, political stability, and free enterprise of developing countries--including the reform movements in Central/ Eastern Europe--and constitute a major contribution to Western security and stability. Until recently, the Republic of Korea has been a net recipient of foreign economic assistance. Korea's own economic aid program, while quite modest, has doubled since 1988 to a level of \$77 million.

Our NATO allies, Japan, and Korea have also provided important economic assistance to the Soviet Union and the new independent states of the former Soviet Union over the past two years, and additional sums will be forthcoming under a recently-announced initiative by the Group of Seven (G-7). This assistance is targeted at a wide range of problems, including food, medicine, shelter, and energy needs, as well as defense conversion, debt deferral, and currency stabilization. Through the end of 1991, the Germans had donated or pledged over \$40 billion in assistance, including substantial sums associated with German unification and the relocation of Soviet troops from its eastern territories. By supporting democratic and economic reform in Russia and the other former Soviet republics, these programs will directly enhance stability throughout Europe, and the national security of the United States and our allies.

DEFENSE COST SHARING

Congressional attention has recently focused on one particular dimension of the burdensharing equation: defense cost sharing, defined as the cash and in-kind contributions that allies make to help offset the costs of stationing U.S. forces on their territory. In 1991, Congress passed legislation (Section 1046 of P.L.

102-190) calling on the President, aided by the Department of Defense and the Ambassador-at-Large for Burdensharing, to consult with U.S. defense partners to seek to achieve agreements on equitable defense cost sharing. The legislation also requires that the *Report on Allied Contributions to the Common Defense* include information describing the efforts undertaken and the progress made in achieving the legislation's goals.

The Administration recognizes that defense cost sharing is a high priority of Congress and supports the principle that the roles, responsibilities, risks, and costs of defense be equitably shared among allies. Although less than a full year has passed since Section 1046 became law, this edition of the *Report on Allied Contributions to the Common Defense* provides an review of Administration efforts and allied contributions towards ensuring that the costs of international defense agreements are equitably shared.

Arriving at what constitutes equitable sharing of the costs of defense requires evaluation of many factors. The overall burdensharing equation involves the purpose and nature of the U.S. overseas presence; each ally's economic well-being; their other military, political, and economic contributions to shared international goals; the cooperative roles and obligations established in bilateral and multilateral defense agreements; and the strategic benefit that the United States itself realizes from the defense agreement.

Forward presence remains one of the foundations of U.S. national military strategy. Although the numbers of U.S. forces stationed overseas are being reduced, the credibility of our ability and intent to respond to crises will continue to depend on judicious forward presence. Forward presence is also vital to the maintenance of the system of collective defense by which the United States works with its friends and allies to protect our security interests, while reducing the burdens of defense spending.

The United States stations troops and prepositions equipment in Europe, the Pacific, and elsewhere because doing so supports U.S. security interests. The United States continues to have a vital interest in European peace, stability, and prosperity. History clearly shows that our military presence in Europe has had a stabilizing influence while benefitting our own security. The same is true of U.S. forces stationed in North East Asia and U.S. prepositioning and access agreements in the Persian Gulf region, which contribute to the security of regions that are increasingly important to the well being of the United States. Although U.S. force structure, forward presence, and reinforcement capabilities are designed to protect U.S. interests, in certain circumstances it is also appropriate that allies help support the cost of our forward presence. The Administration is looking for new ways to share the costs of maintaining U.S. forward presence in the face of defense budget cuts and legislation calling for increased cost sharing.

BILATERAL COST SHARING: PERFORMANCE AND NEGOTIATIONS

In 1991 the Administration negotiated a new cost-sharing agreement under which Japan will assume over the next five years most of the yen-based costs of stationing U.S. forces on its soil, with the exception of certain costs whose transfer would be inappropriate. Japan's willingness to assume a substantial and increasing share of these costs is a clear indication of the value that Japan places on our security partnership. When the agreement is fully implemented, Japan will bear virtually all of U.S. stationing costs (less salaries for U.S. military and civilian personnel and certain other costs whose transfer would not be appropriate). Japan currently pays almost all military construction costs and leases for land used by U.S. forces. Japan is assuming full payment for all U.S. Forces Japan (USFJ) utilities, and salaries and benefits for Japanese employees working for U.S. forces under a new cost sharing agreement. Japan's total host nation support contribution for Japanese Fiscal Year (JFY) 1991 (April 1991-March 1992) was approximately \$3.3 billion.

Under an agreement reached in 1991, Korea will assume one-third of the won-based U.S. stationing costs by 1995. These costs include construction, labor cost sharing, and certain logistics and operations expenses and are in addition to the value of rent-free land and facilities. Korea's cost sharing contributions have grown from \$70 million in 1990 to \$180 million in 1992 and will be \$220 million in 1993. By 1995, this amount may be over \$300 million, depending on our force presence and actual stationing costs at that time.

Korea provides an example of how a country's cost sharing contributions must be evaluated in light of the other defense burdens that the country is assuming and the country's political and military situation. Korea faces a real and continuing military threat from North Korea. Korea is rapidly assuming the lead role in our bilateral alliance, and continues to modernize its forces. In addition, Korea is improving its own defense contributions to U.S. defense needs, such as by its financial and in-kind support to Operation Desert Storm and its funding of the transfer of U.S. headquarters from Seoul.

Cost sharing is also being discussed in connection with new defense cooperation agreements in the Persian Gulf region. The recently-concluded agreement with Kuwait is an example of the willingness of our Gulf partners to share the burden of the common defense. Discussions are still going on with other Gulf states, so it is premature to report on their cost sharing implications. The U.S. Government continues to seek agreements that will equitably share the costs of mutual defense.

COST SHARING IN NATO (U)

It is important to recognize the fundamental differences between the sharing of roles, responsibilities, risks, and costs in NATO, and U.S. cost sharing with Japan. The two cases are not analogous. NATO is a multilateral alliance with an international headquarters, an integrated military command structure, and a well-developed system of assigning defense assets--by country--to coalition roles and missions. Further, NATO has its own cost sharing programs, such as the Infrastructure Program and the Military Budget. The Japanese constitution, on the other hand, limits Japan's military contributions to our bilateral military relationship, thereby making financial support a relatively more important burdensharing tool.

Nor does the financial support for Operation Desert Shield/Storm--an extraordinary and unique burdensharing case study--provide a model for similar agreements with NATO allies to underwrite the full costs of implementing existing bilateral and multilateral defense agreements. During the Gulf War, the largest financial contributors--Saudi Arabia, Kuwait, Japan, and Germany--focused their efforts on cash contributions because their political situations or lack of appropriate military capabilities prevented them from providing similar levels of support through other means. On the other hand, NATO already incorporates burdensharing mechanisms, often obligating each participant to assign substantial military forces to the Alliance. Because of these existing arrangements and the strategic benefits that the United States realizes from its participation in NATO it would be inappropriate and counterproductive for the United States to seek to shift the full costs of its participation in these agreements to its allies. However, cost sharing practices within the overall context of NATO burdensharing need to be examined to ensure that the full range of Alliance burdens and benefits is equitably shared.

Defense burdensharing in NATO is exhibited mainly through members' assigning military forces to Alliance roles and missions, and participation in the NATO force planning process and multinational command structures. NATO allies do, however, provide important support for U.S. forces in Europe that relieves the U.S. Government of substantial stationing costs. Chief among these benefits is the rent-free land and facilities that virtually every NATO ally furnishes for use by the U.S. military. European governments typically waive taxes, customs duties, and other such fees on the local purchases and

activities of U.S. forces. In addition, many governments provide free-of-charge services such as site security, fire protection, access to local social services, use of training areas, and certain operations and maintenance services.

Germany provides the most extensive range of host nation support of any of the NATO allies, because Germany is home to the largest number of U.S. troops in Europe and the German government has, over the years, been quite responsive to U.S. needs. For example, Germany has been supporting the cost of U.S. forces in Berlin as part of post-World War II occupation agreements. Federal- and state-owned land provided to U.S. forces throughout Germany is valued at \$28 billion with an annual rental value of \$800 million. Local governments provide police, public health, and fire protection services to defense-related facilities and are reimbursed over \$92 million annually by the state and federal governments. Germany loses \$20 million a year in waived value-added tax revenues on local purchases by U.S. forces. Also, Germany has over the past several years spent almost \$620 million to implement its share of the U.S.-German wartime host nation support (WHNS) program--in addition to assigning German reserve units to the mission of helping receive U.S. forces deploying from the United States.

Existing NATO cost sharing programs, such as the Infrastructure Program and the Military Budget, are adapting to meet new Alliance needs. NATO, in response to a U.S. request, is using re-programmed Infrastructure funds to pay for the transfer among allies of excess military equipment limited by the Treaty on Conventional Armed Forces in Europe (CFE). This program will help modernize the armed forces of several NATO nations and avoid the need for the United States and others to destroy relatively modern equipment under the CFE Treaty. The program is also an example of the Infrastructure Program continuing to work as a mechanism for Alliance burdensharing.

NATO has also accepted a U.S. proposal under which the Alliance would assume--again through the Infrastructure Program--the annual operations and maintenance costs of facilities that support U.S. reinforcement of Europe. NATO has agreed that these costs are eligible for collective funding. Programming and funding decisions may be made in time for Alliance contributions to begin during FY1993. Included are POMCUS sites, theater reserves for reinforcing forces, collocated operating bases (COBs), prepositioned naval material, and petroleum storage costs. NATO's acceptance of our proposals shows that our allies (1) attach the greatest importance to our forward presence and (2) recognize that U.S. reinforcement capability makes a unique and vital contribution to European security.

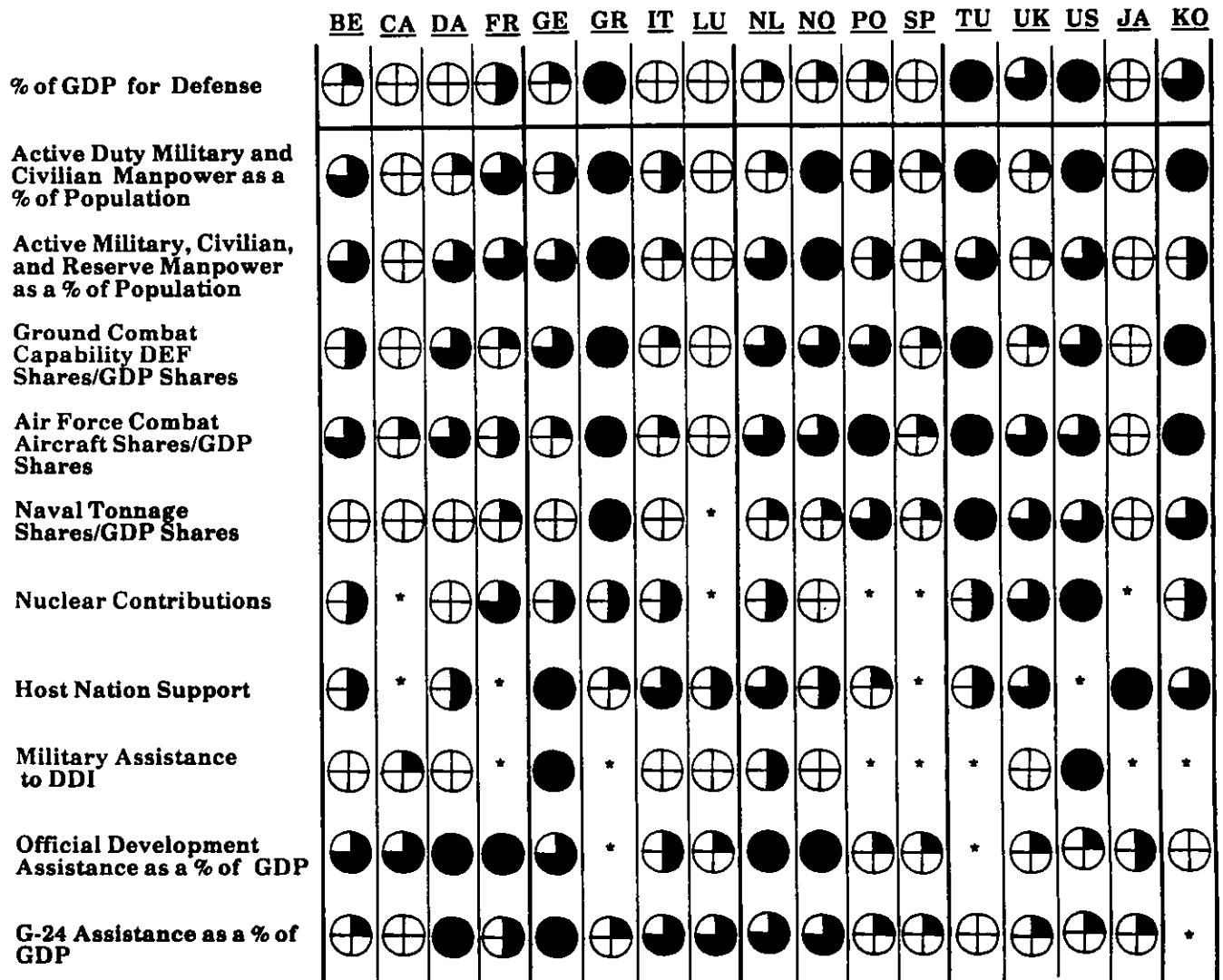
The Administration also intends to raise bilateral cost sharing issues with various NATO allies, focusing on stationing costs to include labor cost sharing and utilities and other support costs. However, negotiating new cost sharing agreements in Europe today will be extremely difficult. Every NATO nation is reshaping defense policies and budgets to meet new circumstances. Also, several of our European allies--most notably Germany--have assumed significant new burdens in the form of assistance to Central and Eastern European countries and support for the withdrawal of former Soviet forces. These new contributions must be factored into the overall burdensharing equation.

CONCLUDING OBSERVATIONS

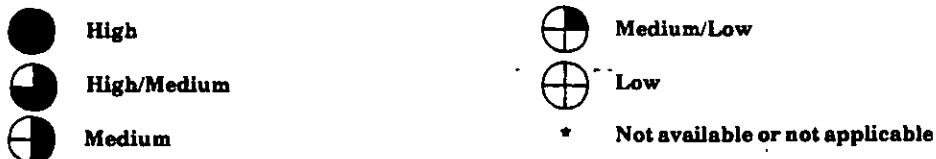
The unsettled period ahead will pose many challenges for the United States and our NATO, Japanese, and Korean allies. Already, the flexibility of NATO's planning process has permitted nations to make short-term changes in their defense programs where these are sensible and prudent, while allowing them to prepare for more fundamental changes that may in the longer term be appropriate. NATO's framework

of a cohesive, integrated defense has served us well for nearly fifty years, and its continuation will be vital to achieving our common objective of a more secure and stable Europe in the years to come. For the Japanese, their steadfast support of the U.S. role in the region, their progress in achieving their self-defense objectives, and their extensive host nation support commitments remain critical elements in our bilateral security relationship. Likewise, Korea's continued support for U.S. military presence, host nation support contributions, and assumption of the lead role in our Alliance all underscore the health of U.S.-ROK security ties.

CHART I-1
COUNTRY PERFORMANCE IN SELECTED BURDENSARING AND FORCE IMPROVEMENT AREAS



Level of Performance and/or Contribution:



NOTE: No set of selected indicators can fully convey the full range of a nation's defense efforts and burdensharing contributions. Readers are, therefore, urged to review this chart in conjunction with the detailed discussions and data elsewhere in the report.

II. COMPARISON OF SELECTED INDICATORS OF BURDENSARING

BURDENSARING FAIRNESS

Defense analysts do not have a single, universally accepted formula for calculating a country's "fair share" of the collective defense burden. Any such calculation would have to take account of, and weigh, the many disparate factors that together determine the level of a nation's defense effort and ability to contribute. Simply identifying which factors to count, and deciding how each should be weighed relative to the others, is itself a difficult task; one made more complicated by NATO's current reexamination of its forces, and of its role in the post-Cold War world. While many components of defense effort are measurable, others are much more subjective in nature and do not readily lend themselves to quantification. Consequently, even the most sophisticated analytical techniques cannot provide a definitive solution to the fair-share problem.

In order to be responsive to the spirit of the Congress's request for a comparison of "fair and equitable shares...that should be borne" and "actual defense efforts...that currently exist," this Report adopts an approach that displays selected quantitative indicators side by side. The overall assessment is a judgmental evaluation that takes into account these quantitative measures as well as the difficult-to-quantify and intangible factors discussed elsewhere in the text.

Broadly speaking, the quantitative measures of performance used in this analysis can be grouped into three general categories: (1) indicators of nations' ability to contribute (Table II-1); (2) indicators of nations' actual contributions (Table II-2); and (3) indicators that measure nations' contributions as a function of their ability to contribute (Table II-3).

To simplify the comparisons, most of the indicators considered in Tables II-1 and II-2 measure a country's relative performance in one of two ways: (1) as a share of the combined NATO, Japan, and Republic of Korea total or (2) as a percentage of the value of the highest-ranking nation. The figures in Table II-3 are expressed as ratios, calculated by dividing the "contribution" shares by the "ability to contribute" shares. Simply stated, a ratio of around 1.0 indicates that a nation's quantifiable contribution and its ability to contribute are roughly in balance. A ratio above 1.0 suggests that a country is contributing beyond its "fair share" for the particular measure in question, whereas a ratio below 1.0 implies that a country's contribution is not commensurate with its ability to contribute.¹ This approach enables us to consider and compare a variety of disparate measures using a common, easily comprehensible scale.

The following section summarizes the major findings of the analysis. Subsequent sections describe the various indicators used to measure individual countries' performance and examine the results for each indicator. Appendix A elaborates on that discussion, presenting the detailed results for additional

¹ Since the ratio for all nations combined is 1.0, a country value of 1.0 means that the nation's contribution is consistent with the NATO, Japan, and Republic of Korea average. By the same token, a ratio greater than 1.0 means that the country is above the average, whereas a ratio less than 1.0 means that it is below the average. Since Table II-3 considers a wide variety of burdensharing measures, comparable ratios on two or more indicators may not represent comparable burdensharing efforts.

Table II-1

A. Selected Indicators of Ability to Contribute

Rank	(A1)		(A2)		(A3) Per Capita GDP (% of Highest Nation)	
		GDP Share		Population Share		
1	US	35.37%	US	30.31%	DA	100.00%
2	JA	18.76%	JA	14.89%	NO	98.21%
3	GE	9.76%	GE	7.65%	GE	92.10%
4	FR	7.81%	IT	6.95%	JA	90.91%
5	IT	7.16%	UK	6.92%	LU	89.66%
6	UK	6.37%	TU	6.82%	CA	84.95%
7	CA	3.78%	FR	6.80%	US	84.21%
8	SP	3.22%	KO	5.17%	FR	82.85%
9	NL	1.82%	SP	4.70%	BE	75.94%
10	KO	1.53%	CA	3.21%	IT	74.30%
11	BE	1.27%	NL	1.80%	NL	73.08%
12	DA	0.86%	GR	1.21%	UK	66.37%
13	TU	0.71%	BE	1.20%	SP	49.50%
14	NO	0.70%	PO	1.18%	GR	26.08%
15	GR	0.44%	DA	0.62%	PO	23.92%
16	PO	0.39%	NO	0.51%	KO	21.38%
17	LU	0.06%	LU	0.05%	TU	7.54%
Non-US NATO		44.34%		49.63%		64.47%
Non-US NATO		64.63%		69.69%		66.93%
+ Japan						
+ Republic of Korea						
Total NATO		79.71%		79.94%		71.96%
Total NATO		100.00%		100.00%		72.17%
+ Japan						
+ Republic of Korea						

Table II-2

B. Selected Indicators of Contribution

Rank	(B1)		(B2)		(B3)		(B4)		(B5)		(B6)		(B7)		(B8)	
		Defense Spending Share		Defense Spending (% Change 71 vs. 90)		Active Defense Manpower Share		Active Defense Manpower (% Change 71 vs. 90)		Active & Reserve Defense Manpower Share		Ground Forces DEF Share		Tac Air Combat Acf Share		Naval Tonnage (All Ships Less SSBN) Share
1	US	56.69%	KO	414.43%	US	38.28%	NO	34.22%	US	36.90%	US	40.34%	US	42.94%	US	58.98%
2	FR	7.94%	TU	270.09%	TU	9.66%	TU	27.10%	GE	11.67%	GE	10.29%	UK	8.85%	UK	11.03%
3	GE	7.39%	JA	175.13%	KO	7.98%	LU	16.39%	FR	9.16%	KO	9.25%	FR	7.83%	JA	6.12%
4	UK	7.21%	LU	174.59%	GE	7.98%	GR	12.93%	TU	8.91%	TU	8.43%	IT	6.17%	FR	5.45%
5	JA	5.34%	GR	110.29%	FR	7.94%	KO	9.74%	IT	5.58%	FR	4.77%	GE	5.87%	TU	2.77%
6	IT	4.35%	SP	54.74%	IT	6.40%	GE	5.80%	KO	5.09%	GR	4.32%	TU	5.02%	GE	2.62%
7	CA	2.15%	FR	54.51%	UK	5.60%	JA	4.95%	UK	4.81%	IT	4.25%	KO	4.49%	IT	2.12%
8	KO	1.80%	CA	51.85%	SP	3.59%	BE	-0.95%	GR	3.63%	JA	3.80%	GR	4.08%	SP	2.10%
9	SP	1.68%	NO	51.77%	JA	3.18%	CA	-1.18%	SP	3.14%	UK	3.80%	JA	3.27%	GR	2.01%
10	NL	1.38%	BE	48.47%	GR	2.68%	SP	-3.56%	JA	2.23%	NL	3.06%	SP	2.36%	KO	1.75%
11	TU	0.99%	IT	29.23%	NL	1.50%	FR	-3.71%	NL	2.05%	SP	2.76%	NL	2.36%	CA	1.75%
12	BE	0.86%	NL	26.68%	CA	1.48%	IT	-8.83%	NO	1.88%	DA	1.27%	BE	2.11%	NL	1.43%
13	GR	0.72%	GE	22.66%	BE	1.32%	NL	-9.69%	BE	1.65%	BE	1.19%	CA	1.81%	PO	0.71%
14	NO	0.63%	US	16.35%	PO	1.18%	US	-14.53%	PO	1.24%	NO	1.12%	PO	1.02%	NO	0.58%
15	DA	0.49%	DA	14.34%	NO	0.74%	DA	-23.98%	CA	1.22%	CA	0.75%	DA	0.97%	BE	0.30%
16	PO	0.35%	UK	-1.24%	DA	0.48%	UK	-33.32%	DA	0.84%	PO	0.60%	NO	0.83%	DA	0.29%
17	LU	0.02%	PO	-8.51%	LU	0.02%	PO	-59.49%	LU	0.01%	LU	0.01%	LU	0.00%	LU	0.00%
Non-US NATO		36.16%		29.86%		50.56%		-5.49%		55.78%		46.61%		49.30%		33.14%
Non-US NATO + Japan + Republic of Korea		43.31%		43.70%		61.72%		-3.26%		63.10%		59.66%		57.06%		41.02%
Total NATO		92.85%		21.26%		88.84%		-9.61%		92.68%		86.95%		92.23%		92.13%
Total NATO + Japan + Republic of Korea		100.00%		26.80%		100.00%		-7.91%		100.00%		100.00%		100.00%		100.00%

Table II-3

C. Selected Indicators Comparing Contribution With Ability to Contribute

Rank		(C1) Ratio: Def. Spend. Share/GDP Share (B1/A1)	(C2) Ratio: Active Def. Manpower/ Pop. Share (B3/A2)	(C3) Ratio: Active & Res. Def. Manpower Pop. Share (B5/A2)	(C4) Ratio: DEF Share/ GDP Share (B6/A1)	(C5) Ratio: Acft Share/ GDP Share (B7/A1)	(C6) Ratio: Naval Tonnage Share/GDP Share (B8/A1)					
1	GR	1.64	GR	2.21	NO	3.68	TU	11.83	GR	9.31	GR	4.60
2	US	1.60	KO	1.54	GR	3.00	GR	9.88	TU	7.05	TU	3.89
3	TU	1.39	NO	1.44	GE	1.52	KO	6.04	KO	2.94	PO	1.80
4	KO	1.18	TU	1.42	BE	1.37	NL	1.68	PO	2.60	UK	1.73
5	UK	1.13	US	1.26	DA	1.36	NO	1.61	BE	1.67	US	1.67
6	FR	1.02	FR	1.17	FR	1.35	PO	1.52	UK	1.39	KO	1.14
7	NO	0.91	BE	1.10	TU	1.31	DA	1.48	NL	1.30	NO	0.84
8	PO	0.89	GE	1.04	US	1.22	US	1.14	US	1.21	NL	0.78
9	GE	0.76	PO	1.00	NL	1.14	GE	1.05	NO	1.20	FR	0.70
10	NL	0.76	IT	0.92	PO	1.04	BE	0.94	DA	1.13	SP	0.65
11	BE	0.68	NL	0.83	KO	0.99	SP	0.86	FR	1.00	CA	0.46
12	IT	0.61	UK	0.81	IT	0.80	FR	0.61	IT	0.86	DA	0.33
13	DA	0.57	DA	0.77	UK	0.70	UK	0.60	SP	0.73	JA	0.33
14	CA	0.57	SP	0.77	SP	0.67	IT	0.59	GE	0.60	IT	0.30
15	SP	0.52	CA	0.46	CA	0.38	JA	0.20	CA	0.48	GE	0.27
16	LU	0.32	LU	0.36	LU	0.23	CA	0.20	JA	0.17	BE	0.24
17	JA	0.28	JA	0.21	JA	0.15	LU	0.13	LU	0.00	LU	0.00
Non-US NATO		0.82	1.02	1.12	1.05	1.11	0.75					
Non-US NATO + Japan + Republic of Korea		0.67	0.89	0.91	0.92	0.88	0.63					
Total NATO		1.16	1.11	1.16	1.09	1.16	1.16					
Total NATO + Japan + Republic of Korea		1.00	1.00	1.00	1.00	1.00	1.00					

indicators, which include general economic and demographic statistics. Also included in Appendix A are tabular country-by-country breakouts of the major quantitative burdensharing indicators.²

Any attempt to compare the burdensharing efforts of individual countries must be made with caution, given the wide variation in the countries' ability to contribute to the collective defense. This point is illustrated in Chart II-4, which plots the defense share of gross domestic product (GDP) against per capita GDP. (Per capita GDP is a widely used index of economic development and standard of living, and provides one possible measure of a nation's ability to contribute to defense.) As a group, the non-U.S. NATO allies have a weighted-average share of GDP for defense of 2.9 percent (about one-half of the U.S. percentage) and a weighted-average per capita GDP of \$16,400 (approximately three-quarters of the U.S. amount).

Individually, however, the non-U.S. countries vary widely in shares of GDP devoted to defense and per capita GDP figures. Although "fairness" is often assumed to imply an equal or proportional sharing of the common defense burden (e.g., equal percentages of GDP devoted to NATO's defense), it could also be considered fair for those countries with a higher level of economic development and a higher standard of living to contribute a greater share of their national income to defense. This second concept is similar to a progressive income tax that collects a greater than proportional share of revenues from individuals in the upper income brackets. There is no analytic basis for choosing between these two perspectives: what constitutes a "fair" distribution of burden is fundamentally a subjective judgment.

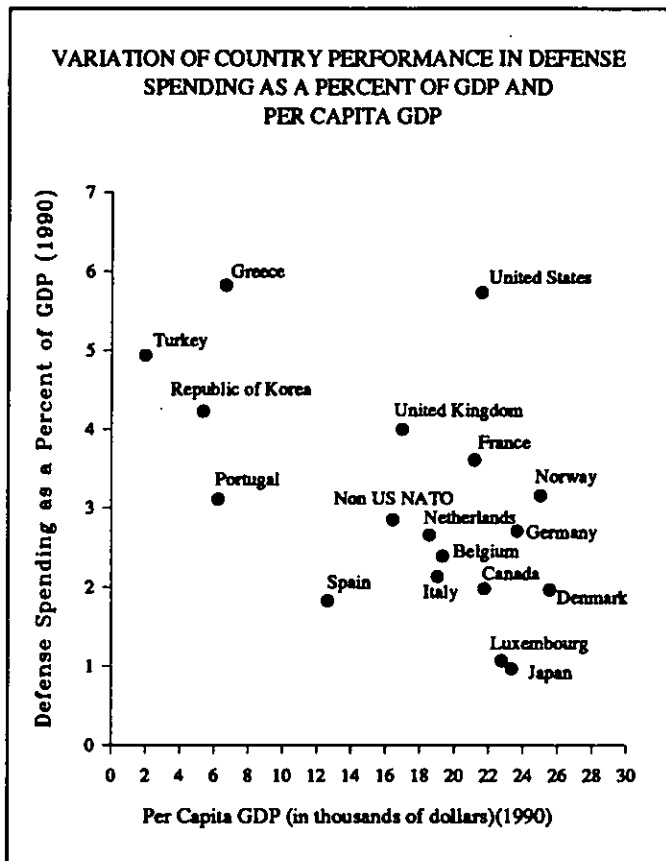


CHART II-4

MAJOR FINDINGS OF THE ANALYSIS

The conclusions presented below take into account: (1) the contribution/ability to contribute ratios recorded in Table II-3, (2) the trend data shown in Table II-2 and discussed in other sections of this Report, (3) the defense output indicators and difficult-to-quantify and nonquantifiable factors (such as host nation support) discussed elsewhere in this document, and (4) each country's relative standing, vis-a-vis other nations, in economic development and standard of living as indicated by per capita GDP (Chart II-4

² Spain joined the NATO Alliance in 1982, but does not commit its forces to NATO's military commands. Spain submitted its first reply to the NATO *Defense Planning Questionnaire* in 1988. Some of the charts in this report do not include a Spanish contribution because historical data for certain indicators are not yet available for Spain. Where Spain has been included, U.S. estimates were used if Spanish or NATO figures were not available.

other nations, in economic development and standard of living as indicated by per capita GDP (Chart II-4 and Table II-1, column A-3). Among all of these factors, heaviest weight is given to the defense spending/GDP ratio (Table II-3, C1), as this combines the most comprehensive indicator of defense effort with the most comprehensive indicator of ability to contribute (GDP).

Important changes in the post-Cold War security environment require a broader perspective in assessing burdensharing performance, particularly with respect to those elements listed in the third group of factors above. Accordingly, included in this year's Report are consideration of nations' Operation Desert Shield/Storm efforts, and their assistance to the nations of Central and Eastern Europe and to the republics of the former Soviet Union. On the other hand, certain elements that have traditionally been a key part of the burdensharing assessment--such as force goal performance, Conventional Defense Improvement (CDI) force goals, and munitions sustainability--are in transition as a result of the sweeping changes in the European security environment, and thus receive less emphasis in the current Report.

Through the addition of new factors and the de-emphasis of others, this year's Report attempts to capture some of the principal changes in the burdensharing situation, although these new elements also make the assessment of burdensharing performance somewhat more complex--and the findings more tentative--than in past years.

NON-U.S. NATO EFFORTS

Our assessment reveals wide differences among the burdensharing efforts of the individual non-U.S. NATO countries. Some nations clearly appear to be doing at least their fair share or relatively more than their fair share, others clearly appear to be doing relatively less than their fair share, while a third group of countries shows performance that can best be characterized as mixed. A more detailed examination of these groupings follows.

NATO Allies Doing Relatively More. This group includes those nations that have demonstrated above-average performance on the key defense spending/GDP ratio, as well as on many other of the burdensharing indicators examined. With the exception of the French, these nations are among the less prosperous in the Alliance (based on per capita GDP).

- **Turkey:** Ranks high on the defense spending/GDP share ratio (C1) and first or second in three of the remaining five ratio indicators in Table II-3, notwithstanding its poor economic status, as indicated by a per capita GDP of about \$1,900, lowest among all nations reviewed in this Report. Turkey has maintained high growth rates of real defense spending in recent years, and has provided substantial support for Operation Desert Shield/Storm.
- **Greece:** Ranks first in the key defense spending/GDP ratio (C1) and first or second on all of the other ratio indicators in Table II-3, but is fourth from last in economic development and standard of living, with a per capita GDP of about \$6,600. Greece provided support for Operation Desert Shield/Storm and makes contributions of assistance to Central/ Eastern Europe.
- **United Kingdom:** Registers strong performance on the defense spending/GDP, aircraft/GDP, and naval/GDP ratios (C1, C5, C6), while ranking relatively low in per capita GDP (lowest of all Northern and Central Region nations). The United Kingdom also makes notable contributions in the areas of nuclear forces and host nation support (HNS), and provided substantial support for Operation Desert Shield/Storm.
- **France:** Appears to be doing its fair share based on the defense spending/GDP share ratio (C1) and

the air force aircraft/GDP ratio (C5) and is somewhat above average when other elements are considered, such as the ratios for active defense manpower/population and active plus reserve defense manpower/population share (C2, C3), and nuclear contributions. The French provided substantial support for Operation Desert Shield/Storm, provide economic aid to Central/ Eastern Europe, and make significant contributions to development assistance. On the other hand, France is not a member of NATO's integrated military structure and thus does not share many of the roles, risks, and responsibilities associated with the common defense effort.

NATO Allies Doing Relatively Less. The distinguishing characteristic of the nations in this group is that they have relatively prosperous economies and high standards of living, yet devote relatively small portions of their resources to defense.

- **Denmark:** Maintains the highest per capita GDP in NATO, yet ranks near the bottom in the defense spending/GDP ratio (C1) and low on the active defense manpower/population and naval tonnage/GDP ratios (C2, C6). Denmark's performance is above average, however, for the active plus reserve defense manpower/population, ground forces DEF/GDP, and air force aircraft/GDP ratios (C3, C4, C5). Denmark makes important host nation support contributions, provided support for Operation Desert Shield/Storm, and ranks high in share of GDP allocated to economic aid to Central/ Eastern Europe and development assistance.
- **Luxembourg:** Ranks relatively high among all countries--and second highest among Central European NATO nations--in per capita GDP, yet devotes the lowest percentage of its GDP to defense of any NATO nation. Luxembourg is at or near the bottom for every indicator shown in Table II-3. On the other hand, Luxembourg has maintained high rates of real growth in defense spending, continues to make important host nation support contributions, and provides noteworthy contributions of economic aid to Central/ Eastern Europe.
- **Canada:** Has a relatively high per capita GDP, yet ranks near the bottom in share of GDP devoted to defense. Similarly, Canada ranks low in all of the indicators shown in Table II-3. Canada supported Operation Desert Shield/Storm and makes contributions to development assistance. The recent decision by the Government of Canada to withdraw its ground and air forces from Europe signals a significant reduction in Canada's contribution to Alliance defense efforts.

NATO Allies With Mixed Efforts. On the basis of the defense/GDP ratio, the nations in this group appear to be contributing less than their fully equitable shares. When other indicators are factored in, however, the contributions of these nations are improved.

- **Germany:** Enjoys a high standard of living (third highest per capita GDP among the NATO nations, Japan, and Korea), yet makes a below average effort on the defense/GDP ratio. Strong contributions are recorded in many important areas, including the ratios for active defense manpower/population, active plus reserve defense manpower/population, and ground forces DEF/GDP (C2, C3, C4), and in the in harder-to-quantify areas of defense effort (e.g., substantial host nation support and civilian assets planned for use in wartime). This nation ranks high in military assistance to DDI nations and economic aid to Central/ Eastern Europe and the former Soviet Union. Germany also provided support for Operation Desert Shield/Storm and makes contributions to development assistance.
- **Norway:** Has the second highest per capita GDP among all nations portrayed in Table II-1, yet is moderately below average on the defense spending/GDP share ratio (C1). Norway makes strong burdensharing efforts in nearly all of the other indicators shown in Table II-3, including ranking first in the active plus reserve defense manpower/population ratio (C3). Norway plans for substantial use

of civilian assets in wartime, makes important host nation support contributions, has maintained moderately high growth rates of real defense spending, and provided support for Operation Desert Shield/Storm. Also, the Norwegians rank first among all NATO nations and Japan in share of GDP contributed to development assistance and make noteworthy efforts in economic aid to Central/Eastern Europe.

- **Portugal:** Has the third lowest GDP per capita among the nations depicted in Table II-1, making this nation's relatively modest absolute contributions appear more equitable. Portugal's defense spending/GDP share ratio (C1) is moderately below average, however, its performance in every one of the other indicators in Table II-3 is average or well above average. Portugal provided support for Operation Desert Shield/Storm.
- **The Netherlands:** Makes important contributions in a number of areas, in spite of its below average ranking on the defense spending/GDP ratio (C1). These strong performance areas include the ratios for active and reserve defense manpower/population, ground forces DEF/GDP, and air force aircraft/GDP (C3, C4, C5) in Table II-3; host nation support; Operation Desert Shield/Storm; development assistance support as a share of GDP (second highest among all nations addressed in this Report); and economic aid to Central/ Eastern Europe.
- **Belgium:** Does well on several key measures, including the manpower and air ratios (C2, C3, C5) in Table II-3. These good efforts are offset, however, by a variety of negative factors, including a downward trend in an already low share of GDP allocated to defense and generally poor performance, heretofore, in meeting NATO objectives. Belgium makes important HNS contributions, provided support for Operation Desert Shield/Storm, makes development assistance contributions, and provides assistance to Central/ Eastern Europe.
- **Italy:** Has the sixth lowest defense spending/GDP ratio (C1) among all countries in Table II-3 and makes below average contributions in all of the remaining indicators in Table II-3. The Italians make important contributions in other areas, however, such as cooperation with nuclear deployments, host nation support, support for Operation Desert Shield/Storm, contributions to development assistance, and economic aid to Central/ Eastern Europe.
- **Spain:** Has the third lowest defense spending/GDP ratio (C1) of any nation in Table II-3, but is also one of the poorer countries in NATO, with a per capita GDP significantly below all Northern and Central region countries. Spain achieves moderately below average contributions for the ground forces DEF/GDP (C4) ratio, and is below the "fair share" threshold for the other ratios in Table II-3. Spain provided support for Operation Desert Shield/Storm.

JAPANESE EFFORTS

Japan's tremendous recovery since World War II now places it as the world's second largest economy, with a GDP greater than that of France and Germany combined. Japan has the fourth highest GDP per capita among the nations included in this Report. In comparison to these impressive economic statistics, Japan's defense contribution, as measured by most burdensharing indicators (particularly those related to GDP), is substantially below par. For example, Japan's defense spending/GDP ratio is the lowest of all countries reviewed in this Report and this country ranks last or well below average in all of the indicators displayed in Table II-3.

A comprehensive evaluation of Japanese contributions requires, however, consideration of a variety of additional factors. Given Japan's large GDP, the one percent of GDP Japan devotes to defense still places

it among the top five nations in this Report in total defense spending, and its growth rate in real defense spending over the last decade exceeds that of the United States, as well as that for NATO as a whole. Of greater relevance, Japan is making steady progress towards the military capability to fulfill its agreed mission, i.e., the defense of its territory, including adjacent air and sea areas and southern sea lanes, to an offshore distance of 1,000 nautical miles. Japan fully funded its 1986-1990 five year plan and Japan's Mid-Term Defense Program, currently under review, forecasts nominal budget growth. In addition, Japan provides bases for forward-deployed U.S. forces and an extensive host nation support package that covers labor (Japan will assume over 50 percent of the labor costs for Japanese workers on U.S. bases this year), facilities construction, land purchase/rental, and other payments. Moreover, Japan is one of the world's largest donors of official development assistance (ODA), a significant economic commitment (though as a percent of GDP, Japan's ODA is roughly comparable to the weighted average for all NATO nations combined). Japan also provided contributions to Operation Desert Shield/Storm. We continue to look to Japan to shoulder a greater share of the common defense burden, particularly for such activities as host nation support and ODA.

REPUBLIC OF KOREA EFFORTS

For the past twenty years, the Republic of Korea has been a world leader in relative economic growth. From 1971 to 1990, the Republic of Korea's GDP increased nearly 400 percent, substantially more than any of the other nations compared in this Report. Despite this growth in GDP, the Republic of Korea ranks next to last among all nations addressed in this assessment in per capita GDP, a key indicator of economic prosperity and standard of living. Also, Korea's defense spending growth of over 400 percent (over the past twenty years) substantially exceeds the growth rate of every other country reviewed in this document. Historically, the Republic of Korea has been near the top of the list of U.S. allies in its share of GDP allocated to defense, ranging from 4 to 5 percent or more for most years since the early 1970s. The Republic of Korea has more than 650,000 personnel in uniform (of a population less than one-sixth that of the United States) and reserve forces much larger than our own.

In addition, in recent years the Republic of Korea has made substantial progress in assuming a greater portion of the costs of maintaining U.S. forces in Korea. The Republic of Korea's host nation support began in 1979 with an agreement to contribute to Combined Defense Improvement Projects (CDIP) construction, thereby improving the readiness of the combined U.S./ROK forces in Korea. In 1988 the Republic of Korea started direct cost sharing support to the United States. Since then, the Koreans have steadily increased their direct payments for host nation support, and, in 1991, after four years of negotiations, the Republic of Korea committed itself to assuming--by 1995--one-third of the won-based costs of maintaining U.S. forces stationed there.

Korea registers very strong performance on virtually all of the major quantifiable measures examined. In four of the six selected indicators comparing contribution with ability to contribute (Table II-3), the Republic of Korea is among the top four countries, and this includes a ranking of fourth in the important defense spending/GDP share ratio. Korea's selected indicator ratios are above the average in all but one of these measures (Active Duty and Reserve Manpower/Population share (C3)); for this indicator, performance is average.

U.S. EFFORTS

Based on the major quantifiable measures examined, the United States appears to be contributing somewhat more than its fair share of the NATO, Japan, and Korea total. The United States has the second highest defense spending/GDP share ratio (C1) among all countries examined and exceeds the 1.0 norm for all of the other ratio indicators in Table II-3 (although for three of these indicators the United States

ratio is exceeded by seven other nations). Also, as discussed elsewhere in this chapter, the United States provides most of the nuclear forces for the Alliance. At the same time, however, the United States ranks relatively high among the NATO nations, Japan, and Korea in economic development and standard of living, as reflected by per capita GDP (\$21,400). Moreover, the gap between the United States and our allies in the key share of GDP allocated to defense indicator has been declining since the mid-1980s and the U.S. share of total NATO forces in Europe will decline as we draw down our Europe-based forces by over 50 percent through the middle of the decade. When taking into account our historical role in NATO, the intangible benefits that accrue to the United States as the acknowledged leader of the Free World (we have a greater opportunity to influence world events and shape our own destiny than do our smaller partners), and our high per capita GDP, our allies might argue: (1) that we are getting full value for the extra effort we appear to be expending, and (2) that our leadership role obligates us to do more than simply achieve our relative fair share.

DESCRIPTION OF BURDENSARING MEASURES IN TABLES II-I, II-2

The quantitative performance ratios cited in the preceding discussion were derived from two major categories of data: indicators of ability to contribute and indicators of actual contributions. The following sections briefly describe the major burdensharing indices associated with each category.

INDICATORS OF ABILITY TO CONTRIBUTE

The ability of nations to contribute to the collective defense effort (see Table II-1) was evaluated on the basis of three indices:

GDP Share (A1). Reflects the total value of the goods and services produced by a country and is widely used for comparing defense burdens among nations.

Population Share (A2). Indicates the total amount of human resources available to each nation and, thus, is useful in examining defense manpower contributions.

Per Capita GDP (A3). GDP divided by population; a widely accepted measure of economic development and standard of living.

INDICATORS OF ACTUAL CONTRIBUTIONS

This analysis draws on eight major measures of contributions to defense (see Table II-2).

Defense Spending (Fiscal Year) Share (B1). The share figures recorded for the NATO countries (including the United States) are based on a definition agreed to by NATO of what is to be included in total defense spending. This ensures a much higher degree of comparability than could be achieved using any other available data. Although defense spending is probably the most comprehensive indicator of defense effort, it is important to recognize that this indicator measures input, not output. Also, this indicator does not fully reflect certain important outlays that contribute to a country's overall defense effort (e.g., host nation support).

Percentage Change in Defense Spending (Fiscal Year), 1971 vs. 1990 (B2). Provides an indication of changes in real defense spending. Figures have been computed using constant 1990 prices and 1990 exchange rates.

Active Defense Manpower Share (B3). Reflects active-duty military and civilian manpower levels in

peacetime. Including civilians in the calculation helps eliminate comparability problems stemming from differences in national policies on the use of civilians for military tasks.

Percentage Change in Active Defense Manpower Levels, 1971 vs. 1990 (B4). Provides an indication of changes in peacetime active-duty military and civilian manpower strengths.

Active and Reserve Defense Manpower Share (B5). Includes average yearly peacetime active-duty and civilian manpower levels plus an estimate of "committed reserves" (for the purposes of this analysis, reservists mobilized to attain wartime authorized strength).

Ground Forces Division Equivalent Firepower (DEF) Share (B6). Measures the effectiveness of ground forces as a function of the quantity and quality of their major weapons. The DEF methodology provides more insight into combat potential than do simple counts of combat units and weapons. However, it does not consider such factors as ammunition availability, logistical support, training, communications, and morale.

Air Force Tactical Combat Aircraft Share (B7). Includes fighter/interceptor, fighter/bomber, conventional bomber, and tactical reconnaissance aircraft in air force inventories.

Naval Tonnage Share (B8). Includes the aggregate tonnage of all major classes of ships, excluding ballistic missile submarines.

BURDENSARING MEASURES AND PERFORMANCE

This section provides a detailed comparison of U.S. and allied efforts as measured by major burdensaring indicators. The discussion treats each indicator individually, explaining its purpose and utility as well as noting important caveats and limitations. Relevant statistics are summarized in the accompanying charts. As noted earlier, quantitative indicators fall into three general categories: (1) indicators of ability to contribute, e.g., gross domestic product; (2) indicators of amount of contribution, e.g., total defense spending, total military and civilian manpower; and (3) indicators that relate contributions with the ability to contribute, e.g., percentage of GDP allocated to defense spending. Appendix A provides further information on key burdensaring indicators in each of these categories, as well as other related data.

In theory, there could be another category of indicators measuring benefits received. These benefits could include (1) the common benefits of peace and security, (2) the benefits of leadership and membership in an alliance for the common defense, as well as (3) economic benefits. As a practical matter, assessment of how these benefits accrue to the United States and its allies becomes quite difficult, however, and ultimately involves highly subjective judgments. For example, some maintain that indicators of economic condition and strength could be used to evaluate the benefits of peace and security, since the larger a nation's population or GDP, the more that nation would have to lose if peace and security were jeopardized. In this view, the share of GDP devoted to defense--one of the burdensaring indicators presented elsewhere in this assessment that compares contributions with ability to contribute--also might be used to depict a nation's defense contribution relative to its benefits. Others would argue, however, that successful deterrence and freedom from domination are intangibles best left unquantified. Similarly, the United States gains benefits of leadership in terms of allied support for its global security responsibilities, as underscored last year in Operation Desert Storm/Shield; however, the allies also benefit

in this arrangement by enhancing their influence on wider security issues. Among the economic benefits of common defense, some would include arms cooperation, defense industrial base, foreign military sales, and transferred technology, as well as the employment and earnings benefits associated with hosting infrastructure projects and allied military activities. However, many of these areas involve costs as well as benefits, and it would be quite difficult to measure the precise distribution of either with strict comparability and consistency.

TOTAL DEFENSE SPENDING

This indicator measures defense spending by nation, both in absolute terms and as a share of the NATO, Japan, and Republic of Korea total (Charts II-5 and II-6). As noted in the previous section, the figures for the NATO nations reflect the types of expenditures defined by NATO as contributing to total defense spending. While this ensures a much higher degree of comparability (both for comparing trends among nations and for examining trends over time) than could be obtained using any other available data, some nations feel their defense efforts are understated by these criteria because they do not include certain expenditures of a unique nature. Germany, for example, incurred sizable costs in 1990 for the integration of the former East German military that are not included in the defense spending statistics in this Report.

Certain defense-related costs, such as real estate provided for forward-deployed forces and some host nation support expenditures, are not counted as defense spending under the NATO definition. Prior to the recent withdrawal of numerous U.S. and allied units from German facilities, for example, the market value of German real estate made available to the allies was estimated at around \$28 billion.

Some European nations, especially Germany, incur additional expenses by hardening or building redundancy into civil projects with potential military applications. Examples include roads, pipelines, and civilian communication systems. Many of these expenditures cannot be reported under NATO's defense accounting criteria.

The value of civilian assets (e.g., trucks) that are designed for military use in time of war likewise cannot be counted as defense expenditures. Yet these assets contribute directly to military capabilities and reduce the amount the United States and its allies might otherwise have to spend on defense. This is

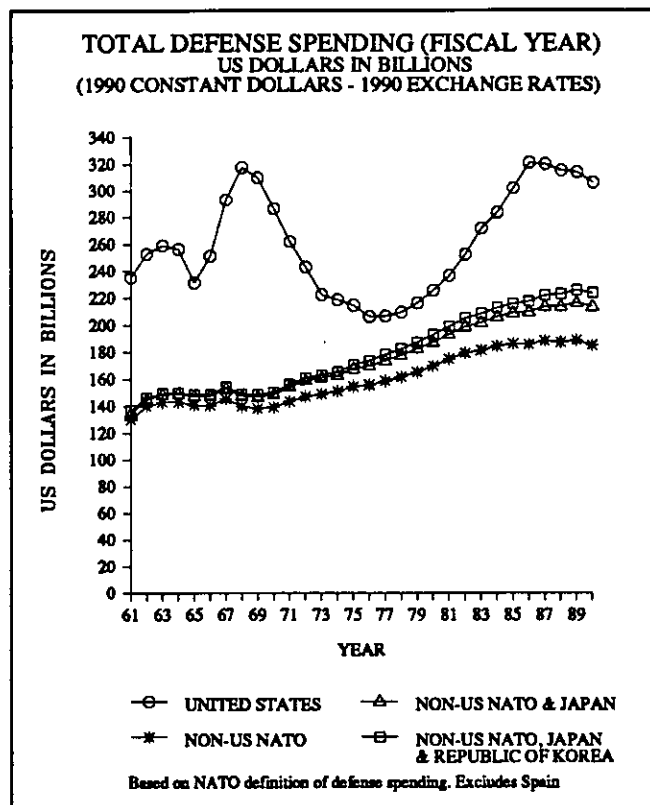
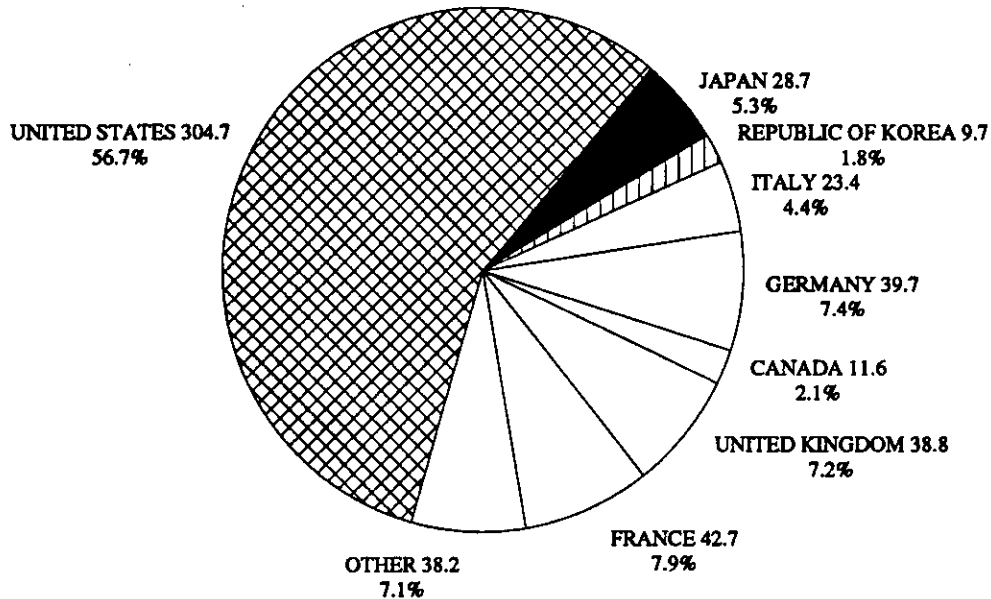


CHART II-5

TOTAL DEFENSE SPENDING (FY)
(1990 CONSTANT DOLLARS IN BILLIONS - 1990 EXCHANGE RATES)
1990 - TOTAL NATO, JAPAN & REPUBLIC OF KOREA - 537.5



3/5/92 CHT II6A

% CHANGE IN TOTAL DEFENSE SPENDING
(1971 VS 1990)

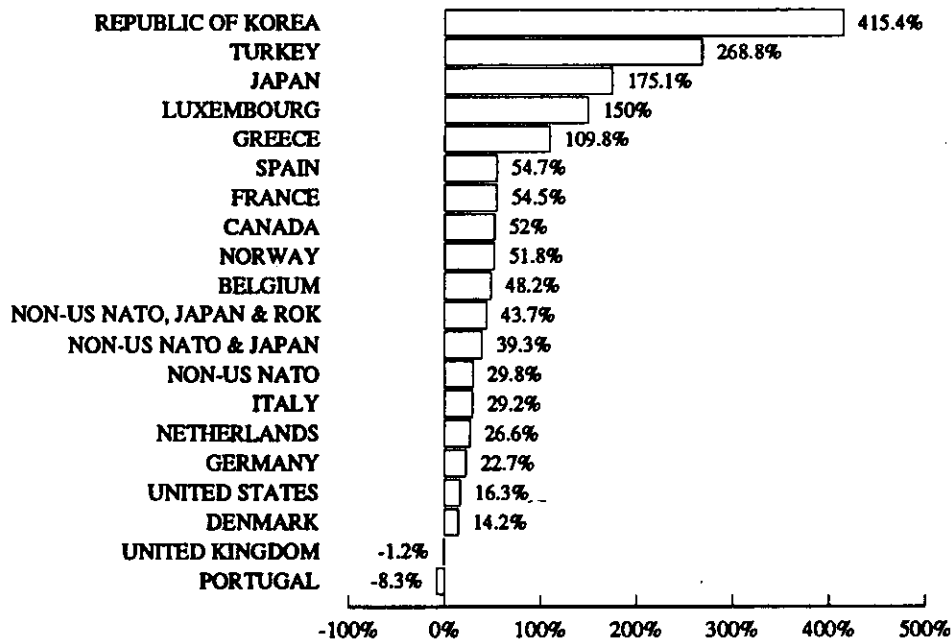


CHART II-6

particularly the case for Germany and Norway, who have undertaken significant programs to register civilian assets that would be used in wartime. The Germans might also argue that their considerable expenditure on German unification (in particular, subsidizing troops of the former Soviet Union remaining in eastern Germany until 1994, and undertaking construction of troop housing projects in the former Soviet republics) benefits the entire Alliance.

It is also important to recognize that identical defense expenditures by two nations will not necessarily translate into identical amounts of military capability. Traditional spending comparisons (such as those displayed in the accompanying charts) may thus understate the efforts of those nations that are highly efficient in obtaining and using defense resources and overstate the efforts of those nations that are less efficient.

Together, the NATO nations, Japan, and the Republic of Korea spent some \$538 billion on defense in 1990. The United States accounted for \$305 billion, or 57 percent, of that amount. As Chart II-5 shows, U.S. defense spending in real terms declined during most of the 1970s, then turned upward toward the end of the decade, but since 1987 has again been on the decline. As depicted in Chart II-6, the net change in real defense spending between 1971 and 1990 reflects a 30 percent increase for the non-U.S. NATO members as a group, 175 percent growth for Japan, 415 percent growth for the Republic of Korea, and an increase of 16 percent for the United States.

PERCENTAGE OF GROSS DOMESTIC PRODUCT (GDP) ALLOCATED TO DEFENSE

This is probably the most widely used indicator of defense burdensharing. Among its virtues are that it is easy to compute; it is based on data that are readily available; and it is easy to explain and understand (Chart II-7).

When used as one of a variety of indicators, and with an understanding of some of its shortcomings, the GDP share indicator can provide valuable insights. Unfortunately, there is often a tendency to view it as the "be-all and end-all" of burdensharing measures and, thus, to rely on it to the exclusion of other measures. Another problem is the tendency of some users of this measure to assume--explicitly or implicitly--that "equitable" burdensharing requires all nations to devote an equal share of GDP to defense. An opposing view frequently voiced within the Alliance is that it is more equitable, and in the collective interest of the Free World, for nations with the strongest economies to devote a proportionately larger share of their wealth to defense, thereby allowing weaker members to allocate proportionately more of their limited resources to basic domestic programs.

Finally, it is important to recognize that all of the factors discussed in the previous section that render total defense spending an imperfect indicator of a nation's defense effort also apply to defense spending as a share of GDP. That is, the measure does not take into account efforts that are not directly reflected in defense budgets, nor does it give credit to those countries that are able to make more effective use of their defense resources.

The United States, with a 1990 percentage of 5.7, allocates the second highest share of GDP to defense among the 17 nations surveyed here (Chart II-8). Greece ranks first, with 5.8 percent, while Turkey's 4.9 percent share places it third, followed by the Republic of Korea (4.2 percent), the United Kingdom (4.0 percent), and France (3.6 percent). All of the remaining nations have shares of 3.2 percent or less. The weighted average for the non-U.S. nations combined is 2.9 percent if only the NATO members are considered, and 2.4 percent if Japan and the Republic of Korea are included in the calculation.

The obvious discrepancy between the U.S. share and the shares of many of the allies can be attributed,

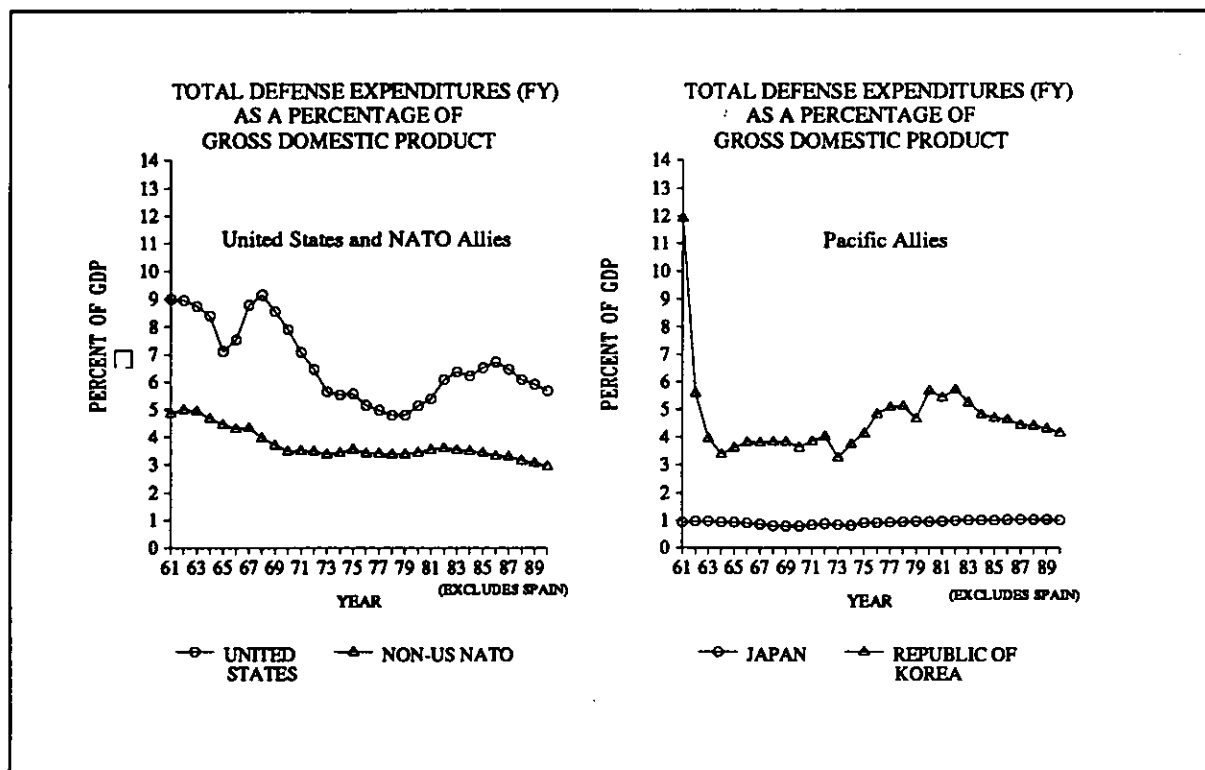


CHART II-7

in part, to our role as a nuclear superpower and our worldwide interests and responsibilities. The very low Japanese percentage and relatively modest German percentage follow partly from political, constitutional, and treaty constraints (on defensive efforts for the Japanese and on overall force size for the Germans).

An examination of trends indicates that the weighted-average percentage of GDP devoted to defense for all of the non-U.S. NATO nations combined declined steadily during the 1960s. During the early 1970s through early 1980s, allied defense spending generally kept pace with economic growth, resulting in a roughly level trend in share of GDP devoted to defense. Since then, however, the non-U.S. NATO percent of GDP allocated to defense has crept downward, falling from 3.5 percent in 1982 to 2.9 percent in 1990. By comparison, the U.S. GDP percentage fell between 2 and 3 percentage points between the early 1970s and 1979, sharply increased during the first half of the 1980s, but in recent years has been declining. The 1970s decline cannot be attributed solely to our Southeast Asia phase-down inasmuch as our percentage in the early 1960s--prior to the Vietnam buildup--was two percentage points above the early 1970s level (9.0 percent versus around 7.0).

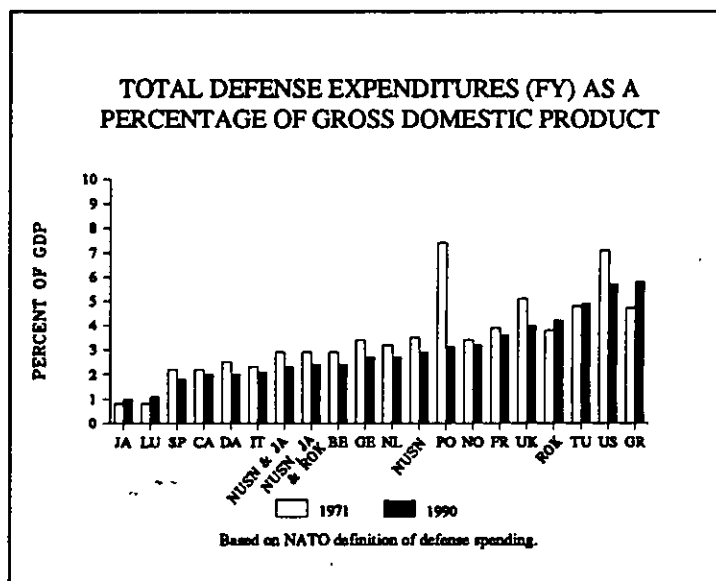


CHART II-8

TOTAL ACTIVE-DUTY MILITARY AND CIVILIAN MANPOWER

Charts II-9 and II-10 show the peacetime active-duty military and civilian manpower resources allocated to defense by each nation. Charts II-11 and II-12 provide similar breakouts for peacetime active-duty military manpower only. Including civilian defense manpower helps eliminate comparability problems stemming from different national policies on the use of civilians for military tasks. Accordingly, the discussion below focuses on the combined military and civilian figures.

Since this indicator does not include reserve manpower, it tends to understate the efforts of nations such as Norway that have structured a small cadre of active-duty personnel around a large pool of trained reservists who can be rapidly mobilized in an emergency. This consideration will take on added importance in the future as NATO countries increase the size of their mobilizable reserve forces relative to their active duty troops. For many countries, a force mix with a larger reserve component may be more cost-effective given the increased warning times brought about by recent political and military developments in the former Soviet Union and Eastern Europe.

Variations from country to country indicated by this measure can be attributed, among other things, to differences in (1) active/reserve policies, (2) the cost of manpower, and (3) the extent to which programs emphasize labor-intensive forces (e.g., ground units) versus capital-intensive ones (navies and air forces). It should be noted here that German forces shown in this Report exclude any former East German defense personnel.

A review of the trends indicates that U.S. manpower levels fell by approximately 20 percent between 1971 and 1978, increased by over 11 percent between 1978 and 1987, but since then have modestly declined--for a net change of minus 15 percent over the entire 1971-90 period. The total strength of the non-U.S. NATO allies remained practically unchanged during the early 1970s, but declined by around 5 percent between 1974 and 1976, reflecting, in part, reductions in British, Italian, and Portuguese manpower that were partially offset by increases in Turkish manpower. During 1976-84, non-U.S. NATO defense manpower registered an increase of around 4 percent--reflecting a growth in Turkish and Italian manpower levels, a modest decline in the number of British personnel, and generally steady levels for most of the other allies--but in recent years the trend has declined slightly. As a result of (1) the aforementioned

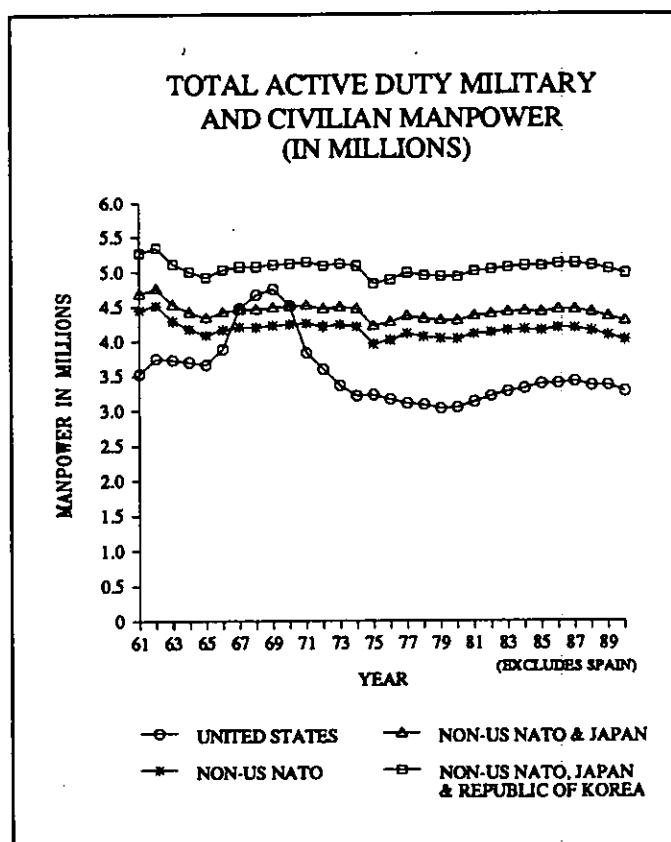
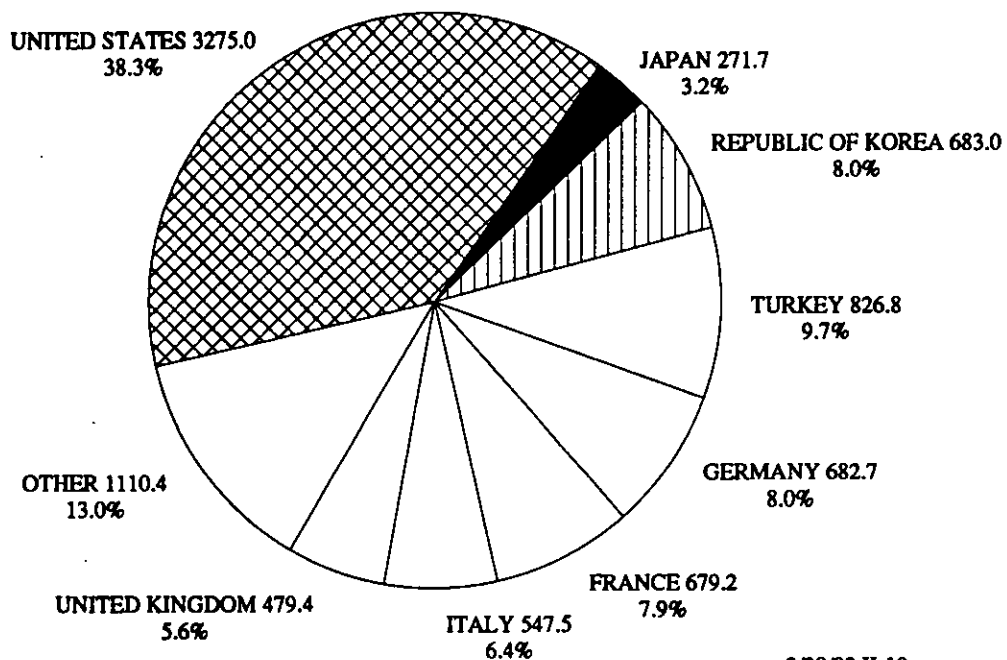


CHART II-9

**TOTAL ACTIVE DUTY MILITARY AND CIVILIAN MANPOWER
(IN THOUSANDS)
1990 - TOTAL NATO, JAPAN & REPUBLIC OF KOREA - 8555.7**



2/28/92 II-10

**% CHANGE IN TOTAL ACTIVE DUTY MILITARY AND CIVILIAN MANPOWER
(1971 VS 1990)**

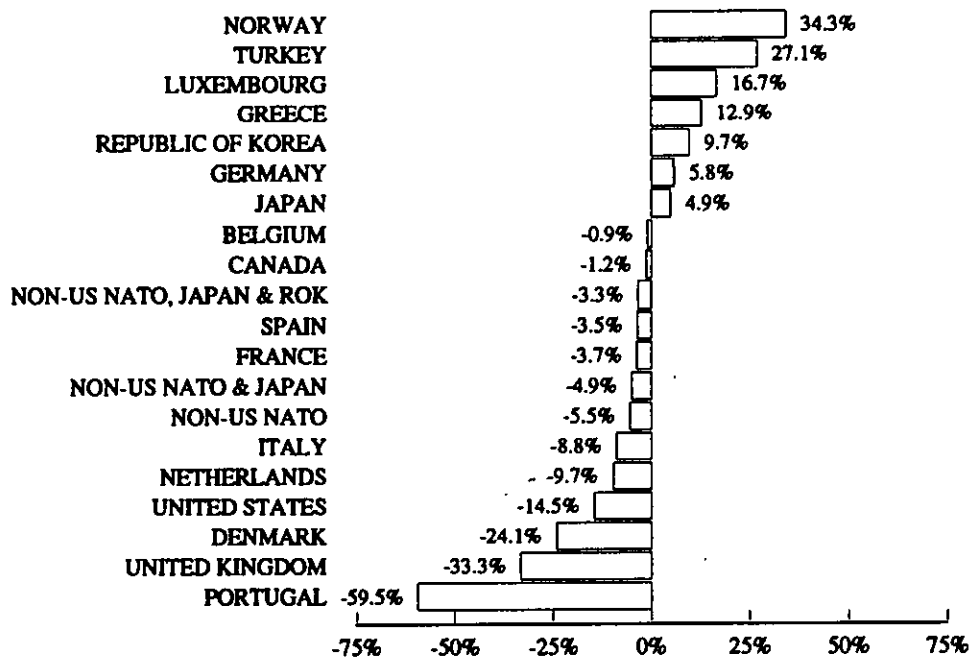


CHART II-10

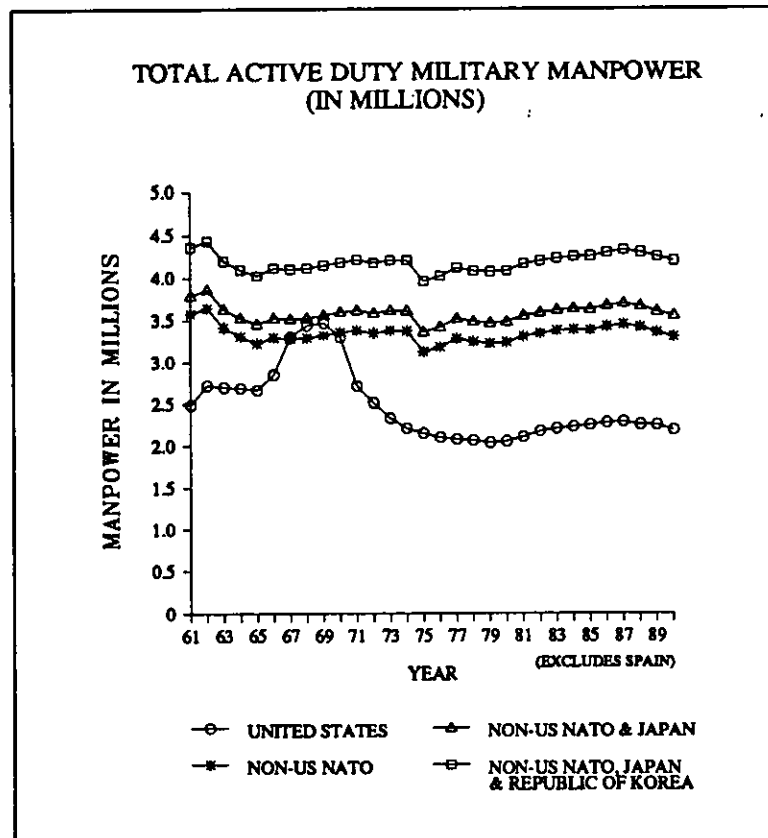


CHART II-11

changes in non-U.S. NATO manpower levels, (2) a 5 percent increase in Japan's 1971-90 level, and (3) a 10 percent increase in the Republic of Korea's 1971-90 level, the U.S. share of the NATO, Japan, and Republic of Korea total fell from 41 percent in 1971 to 38 percent in 1990.

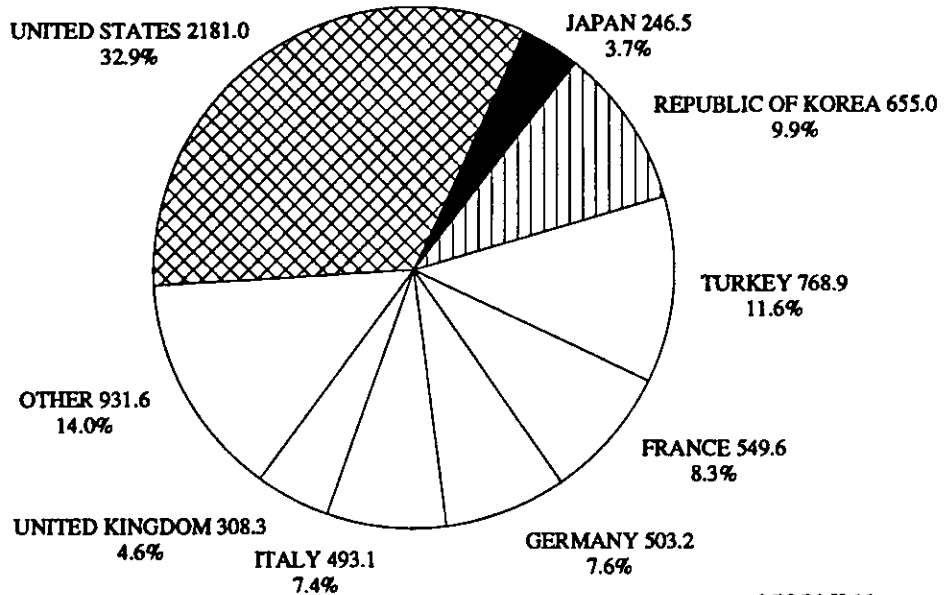
TOTAL ACTIVE-DUTY MILITARY AND CIVILIAN MANPOWER AND COMMITTED RESERVES

Chart II-13 reflects the active-duty military and civilian manpower figures recorded in the previous charts, plus an estimate of "committed reserves" (i.e., reservists mobilized to attain wartime authorized strength). As mentioned above, this indicator will take on additional importance as the United States and its allies place a larger share of their troops in the reserves.

Including committed reserves, the NATO nations, Japan, and the Republic of Korea together have about 13 million people under arms and in their civilian defense establishments. Of that amount, non-U.S. nations account for 8 million personnel (or 63 percent of the total), while the United States contributes about 5 million.

Most of the non-U.S. NATO nations supply larger shares of the NATO, Japan, and Republic of Korea total under this measure than they do under the "active military and civilian" measure used in the previous section because the allies rely more heavily on reservist manpower.

TOTAL ACTIVE DUTY MILITARY MANPOWER
(IN THOUSANDS)
1990 - TOTAL NATO, JAPAN & REPUBLIC OF KOREA - 6637.2



2/28/92 II-12

% CHANGE IN TOTAL MILITARY MANPOWER
(1971 VS 1990)

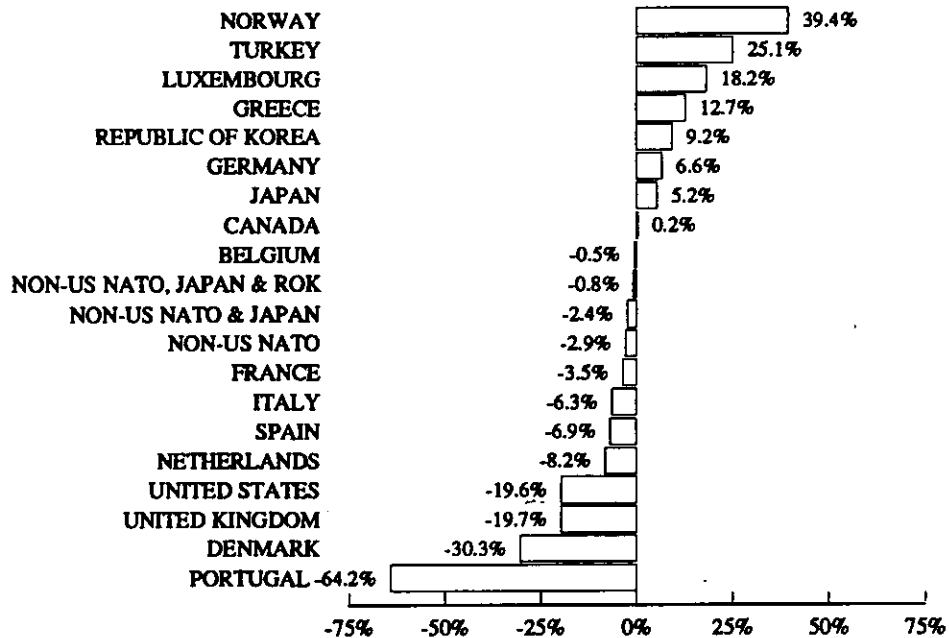


CHART II-12

Although the Republic of Korea maintains a ready reserve force of over four million men to supplement active duty units, this force does not satisfy the definition of reserve manning (i.e., personnel with wartime billets that, when added to peacetime authorized strength, yield wartime authorized strength) used for this Report. Consequently, to ensure that the analysis in this Report is conducted on a comparable basis among nations, the Republic of Korea is not given credit for its reserves. These reserves, however, are a viable fighting force and would be an integral part of the Republic of Korea's fighting forces.

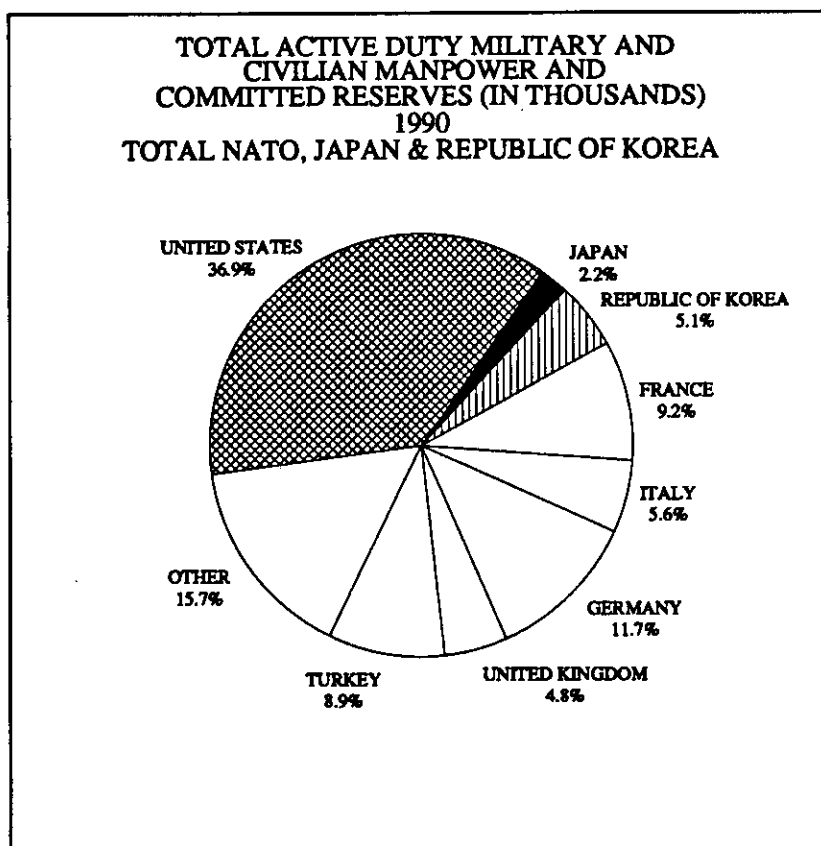


CHART II-13

DEFENSE MANPOWER AS A PERCENTAGE OF POPULATION

This widely used and generally well-understood indicator provides a basis for comparing the defense manpower contributions of nations, taking into account differences in the size of their populations. The percentages reported below were derived using combined military and civilian manpower levels (Charts II-14 and II-15). For purposes of comparison, figures for military manpower only are also provided (Charts II-16 and II-17).

Active-Duty Military and Civilian Manpower as a Percentage of Population (Charts II-14 and II-15). This indicator shows a wide variation among nations in 1990, ranging from highs of 2.3 percent for Greece, 1.6 percent for the Republic of Korea, and 1.5 percent for both Norway and Turkey, to lows of 0.3 percent and 0.2 percent for Luxembourg and Japan. The United States ranks fifth, with 1.3 percent,

followed by 1.2 percent for France, and 1.1 percent for Germany and Belgium. Canada, Denmark, Italy, the Netherlands, Portugal, Spain and the United Kingdom all fall below the non-U.S. NATO average of 1.1 percent. Germany's low position, in comparison to other non-U.S. NATO countries, is explained by postwar treaties that limit the size of the German active-duty forces.

An examination of trends in active-duty military and civilian manpower as a share of population reveals a 27 percent decline in the U.S. percentage between 1971 and 1979, followed by a 3 percent decrease between 1979 and 1990--resulting in a 30 percent net decline for 1971-90. The weighted-average percentage for all of the non-U.S. NATO nations combined fell approximately 9 percent between 1971 and 1975, but since the mid-1970s has remained generally level. The figures for Japan follow a pattern similar to that of the non-U.S. NATO allies. The Republic of Korea maintained steady percentages of about 1.7 percent for 1975 through 1981 that decreased to about 1.6 percent for the 1982 through 1990 period.

Portugal's sharp decrease--which caused its ranking to fall from first in 1971 to ninth in 1990--can be attributed to deactivation of forces following its withdrawal from Africa during the early 1970s.

Active-Duty Military and Civilian Manpower and Committed Reserves as a Percentage of Population. The results change considerably for several nations when reserve manpower is included in the calculation. By this measure, Norway and Denmark rank first and fifth respectively, as against third and thirteenth, respectively, if only active duty military and civilian manpower are considered.

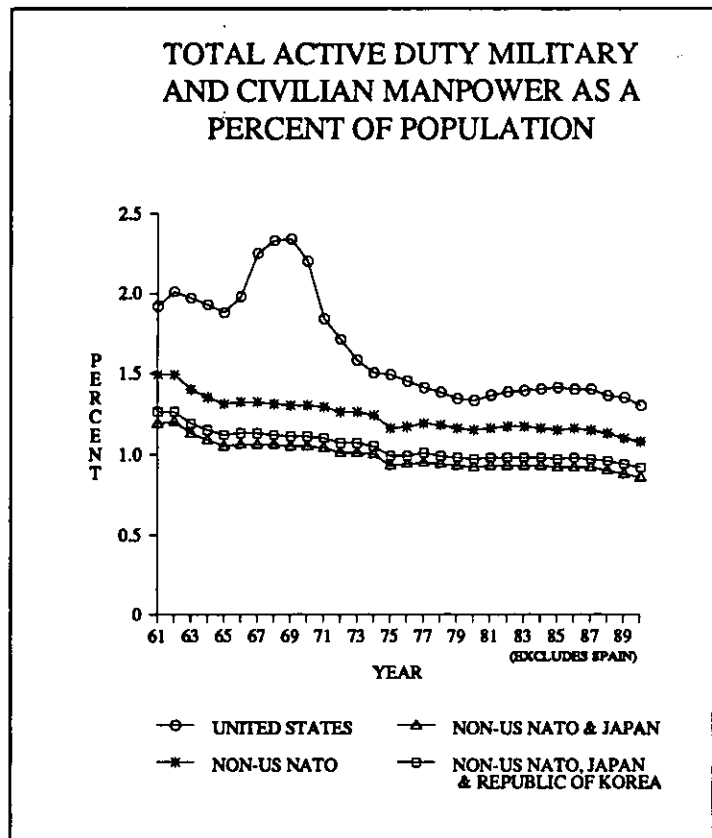


CHART II-14

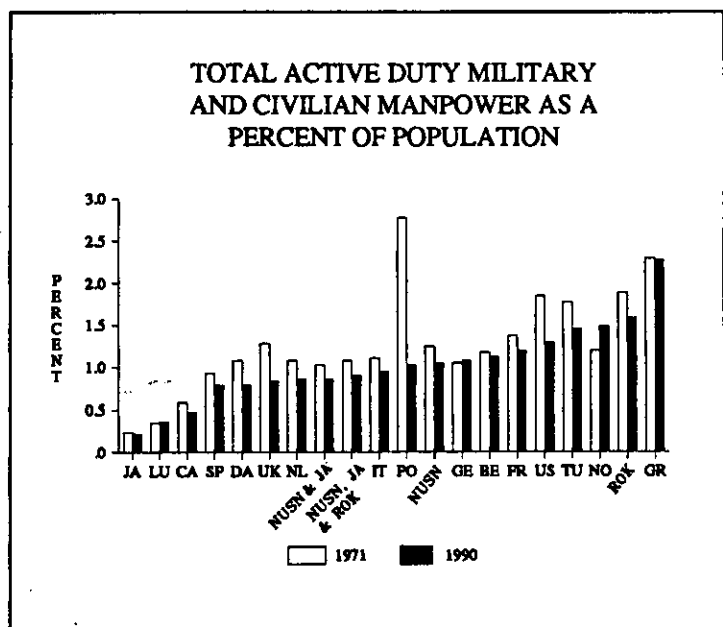


CHART II-15

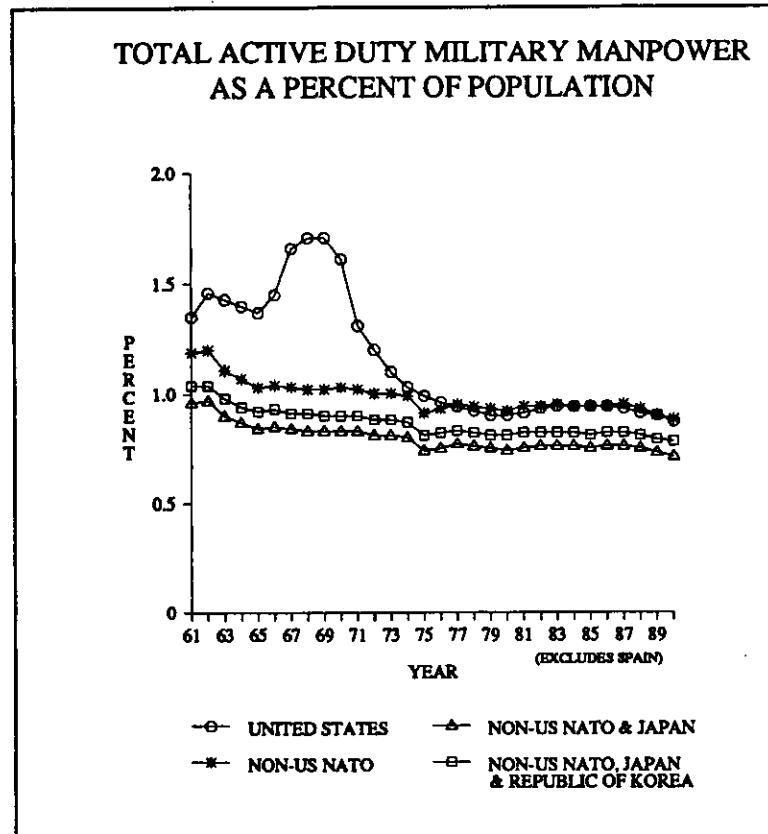


CHART II-16

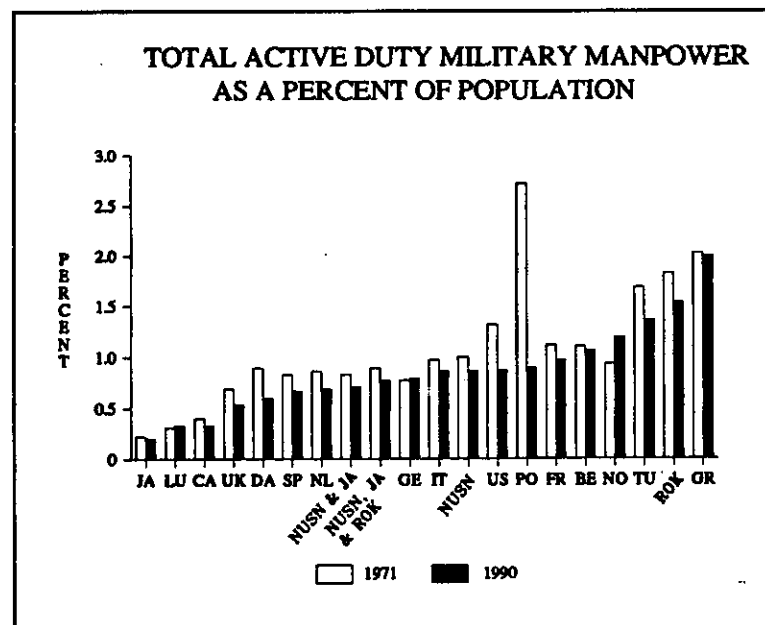


CHART II-17

OUTPUT-ORIENTED INDICATORS

It is important to emphasize that there is no single, comprehensive output indicator that reflects all of the factors that determine military capability. The material presented here is intended to provide a thumbnail sketch of each country's force contributions by highlighting a few key static indicators that are widely accepted within the defense analysis community. The data used for these displays are based on U.S. estimates, and incorporate information provided by nations under the CFE data exchange (for those forces limited by CFE), as well as responses to the NATO *Defense Planning Questionnaire* (DPQ) (for those nations that participate in NATO's coordinated defense planning process). Subsequent to this section is a separate discussion regarding the outlook for U.S. and allied forces by the mid-1990s.

GROUND FORCES

Division Equivalent Firepower (DEF) Share

The DEF is an indicator of ground forces combat power based on the quantity and quality of major weapons. This measure draws on the static assessment techniques used in the Armored Division Equivalent (ADE) methodology with additional improvements made to portray more accurately NATO equipment modernization. The DEF methodology--which is widely used within DoD and NATO for ground forces comparisons--takes into consideration qualitative improvements to weapons. The DEF thus provides more insight into combat potential than do simple counts of combat units and weapons. The measure deals with weapons' technical capabilities; it does not consider such factors as ammunition availability, logistical support, communications, troop training, and morale. At this time there is no generally accepted static measure of ground combat capability that incorporates all of these factors.

The non-U.S. nations combined account for 60 percent of the DEF total depicted in Chart II-18. The United States supplies the remaining 40 percent. Our NATO allies make up 47 percent of the total.

Among our allies, the biggest contributors are Germany, the Republic of Korea, and Turkey, which provide 10 percent, 9 percent, and 8 percent of the DEF total, respectively. Turkey and Korea have force structures that are larger than Germany's, but are far less modern. Italy, France, Greece, Japan and the United Kingdom are in the middle range, each contributing between 4 and 5 percent of the total DEF.

Belgium, Canada, Denmark, Luxembourg, Norway, and Portugal contribute the smallest shares. Each of these countries accounts for less than 2 percent of the total. The force capability of countries such as Norway (which has terrain that is more favorable to infantry than armor formations) may be understated, however, because of the DEF methodology's emphasis on firepower.

Major Equipment Holdings and Modernization

Current inventories of the NATO nations are described below for two categories of ground forces equipment--main battle tanks and artillery.

The tank and artillery assets of the non-U.S. nations exceed U.S. holdings for each of these categories by a wide margin. In terms of modernization, the non-U.S. countries in the aggregate account for half

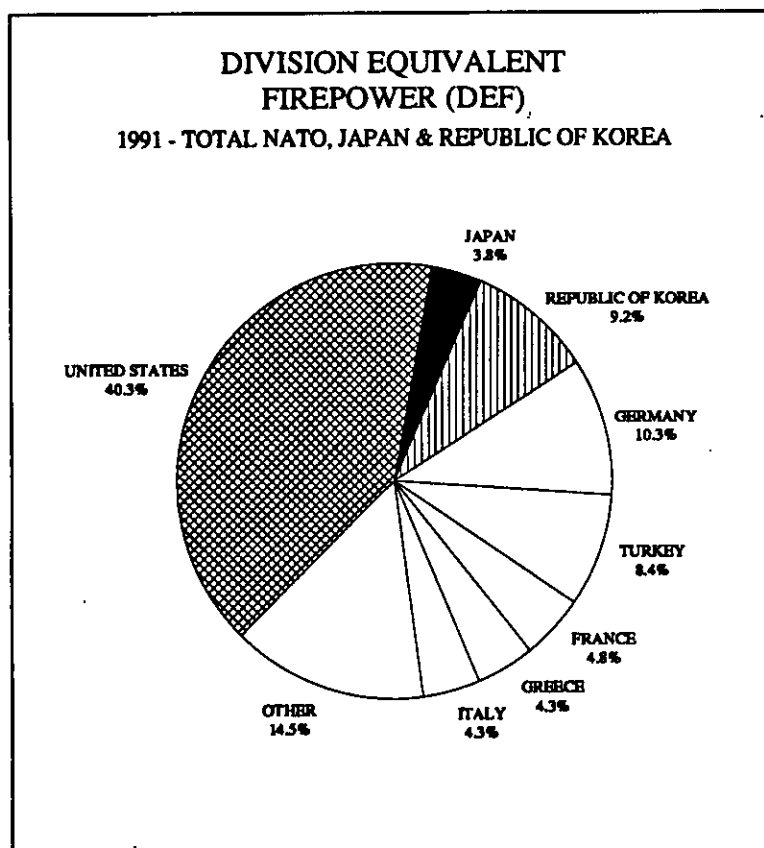


CHART II-18

of the current and new-generation tanks and artillery in the NATO, Japan, and Republic of Korea inventories; however, the United States has proportionally more new generation and proportionally fewer old-generation systems compared to the allies. New generation tanks and artillery constitute a share of total U.S. tank and artillery holdings some two to three times as large as is the case for our allies. Most of the old-generation tanks and artillery in the allied inventories belong to Greece, Spain and Turkey.

Modernization efforts differ considerably across NATO countries. Three countries in the Central Region--Germany, the Netherlands and the United Kingdom--have replaced a large portion of their current-and/or old-generation tanks with new-generation systems. Belgium, Canada, and Norway plan improvements to their current-generation Leopard I tanks. Denmark plans to significantly enhance its main battle tank fleet through the procurement of Leopard I tanks from Germany. Over the last several years, Southern tier countries have gradually phased out hundreds of old-generation tanks and replaced them with current tanks; for these nations, tank modernization will greatly accelerate as CFE-related transfer and destruction plans are implemented.

Artillery modernization is proceeding via the procurement of MLRS by at least five allied nations. Also, nearly all of the allies are upgrading their existing 155mm howitzers or procuring new 155mm systems. Despite these improvements, the Southern nations will retain a number of old-generation tubes into the 1990s. The implementation of CFE transfer and destruction plans will improve this situation, but not to the extent expected for tanks.

MARITIME FORCES

Naval Forces Tonnage

Tonnage is a static measure of aggregate fleet size. For most purposes, it provides a more meaningful basis for comparison than do simple tallies of ships. The use of tonnage alone as an indicator does not, however, provide any indication of the number of weapons aboard ships, or of the weapons' effectiveness or reliability. Nor does the measure take account of the less tangible ingredients of combat effectiveness, such as personnel training and morale. Consequently, tonnage data should be considered a rough indicator of naval potential.

Chart II-19 shows percentages of the aggregate tonnage for the U.S., non-U.S. NATO, Japan, and Republic of Korea navies, excluding strategic ballistic submarines. The U.S. contribution is 59 percent, compared with 33 percent for the non-U.S. NATO allies and 41 percent for the non-U.S. NATO nations, Japan, and Republic of Korea.

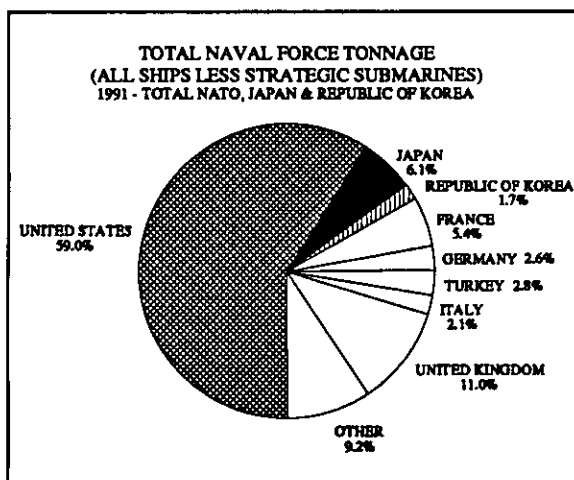


CHART II-19

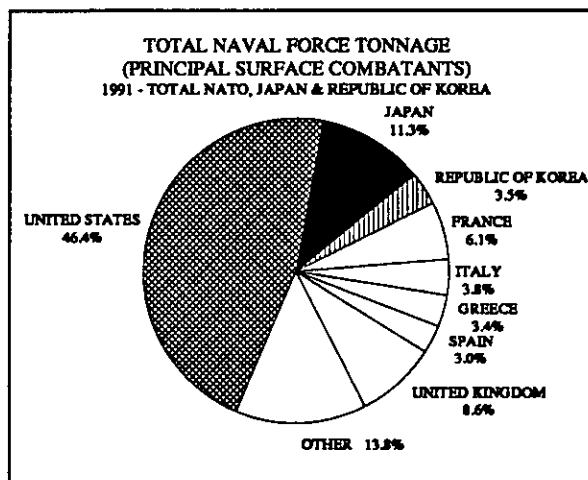


CHART II-20

It should be noted that these data include for the United States some tasks that most allied navies do not customarily perform (e.g., attack carriers, fleet support, sealift, and amphibious operations). When only major surface combatants--the ship types more closely associated with the primary roles of allied navies--are included, the picture changes somewhat (see Chart II-20). By this measure, the U.S. share declines to 46 percent, compared with 39 percent for the non-U.S. NATO nations and 54 percent, if Japan and the Republic of Korea are included.

Naval and Marine Combat Aircraft

The total number of fixed wing naval and marine fighter/interceptor, attack, sea based ASW, and tactical reconnaissance aircraft in NATO, Japan, and Republic of Korea maritime forces is shown in Chart II-21. Combat capable trainer aircraft are included in the aircraft counts; electronic warfare, tanker, and airborne early warning aircraft are excluded.

The United States provides 88 percent of the total. Outside of the United States, only France, Germany, the United Kingdom, and Spain have any significant numbers of tactical maritime aircraft, with 12 percent of the NATO, Japan, and Republic of Korea total among them. The United Kingdom has significant numbers of Air Force tactical aircraft assigned maritime missions--as does the Portuguese Air Force; these aircraft are included in the air force totals presented later in this chapter.

ASW Maritime Patrol Aircraft

Chart II-22 shows the totals of land-based ASW maritime patrol aircraft (MPA). ASW capable training aircraft are included; non-ASW capable patrol aircraft are excluded. Non-U.S. NATO countries provide 31 percent of the MPA in the NATO, Japan, and Republic of Korea totals with the United States providing 51 percent. Japan accounts for about 15 percent. Japan's level of effort will increase as the Japanese expand their sea control responsibilities to 1,000 nautical miles of the home islands.

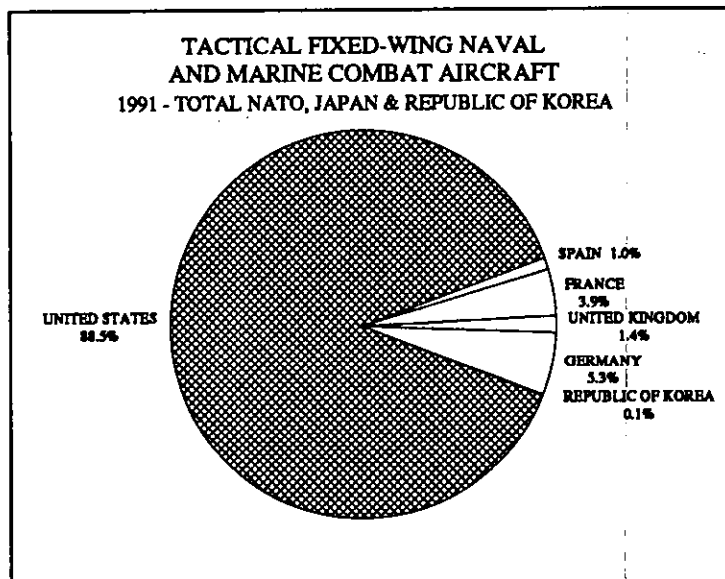


CHART II-21

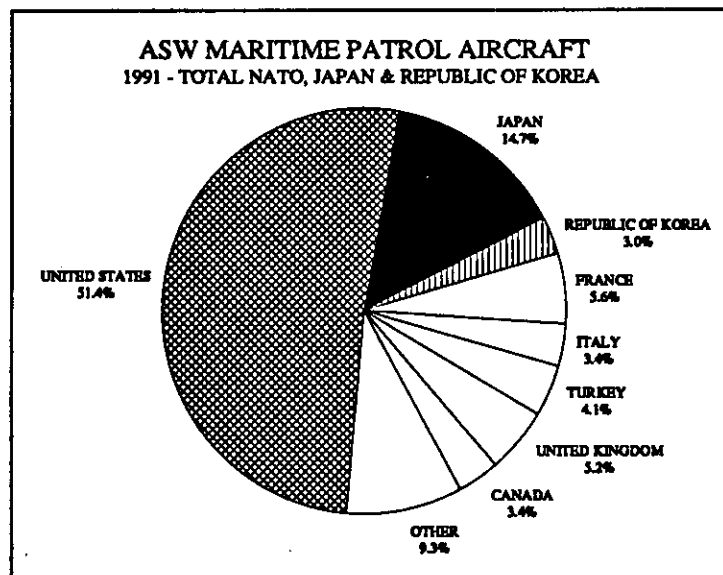


CHART II-22

TACTICAL AIR FORCE COMBAT AIRCRAFT

Chart II-23 depicts total inventories of air force fighter/interceptor, fighter/bomber, conventional bomber, and tactical reconnaissance aircraft, along with each country's share of the NATO, Japan, and Republic of Korea total. Combat capable trainer and electronic warfare aircraft are included in these counts. The combined holdings of the non-U.S. nations represent 57 percent of the total. The non-U.S. NATO countries' share accounts for 49 percent.

With a substantial proportion of its inventory comprised of new-generation aircraft, the U.S. Air Force has the most modern combat aircraft inventory among the nations reviewed in this Report. Other nations with large proportions of new-generation aircraft in their inventories include Norway, the Netherlands, and Belgium. Over half of the combat aircraft inventories in four more nations--Canada, Denmark, Germany, and the United Kingdom--are comprised of new-generation aircraft. For the non-U.S. nations in the aggregate, new aircraft account for about 40 percent of the total combat aircraft holdings, whereas current-generation models account for 55 percent, and older planes the remaining five percent.

France and the U.K. have the largest combat aircraft inventories of the non-U.S. countries. Inventories in the Northern Region countries (Denmark and Norway) continue to decline while becoming substantially more modern.

MUNITIONS SUSTAINABILITY

Recent political and military developments have introduced considerable uncertainty into the sustainability picture.

Most NATO nations have reacted to the dissolution of the Warsaw Pact and of the Soviet Union by planning for reduced levels of forces. In the wake of recent events, however, few nations have worked out their new sustainability plans at the detail level.

Adding to the uncertainty are the changes brought about by the CFE Treaty and the NATO equipment transfer plan. Furthermore, NATO currently is reviewing its stockpile guidance, against which country sustainability performance is measured, and is expected to relax those standards somewhat. Given the factors outlined above, a meaningful detailed assessment of NATO munitions sustainability cannot be provided at this juncture. In general--assuming ammunition stocks are not reduced commensurately--the move towards smaller forces suggests an improvement in sustainability. On the other hand, mismatches in ammunition and equipment, such as acquiring transferred equipment without the necessary ammunition, would contribute towards a degradation of NATO's sustainability.

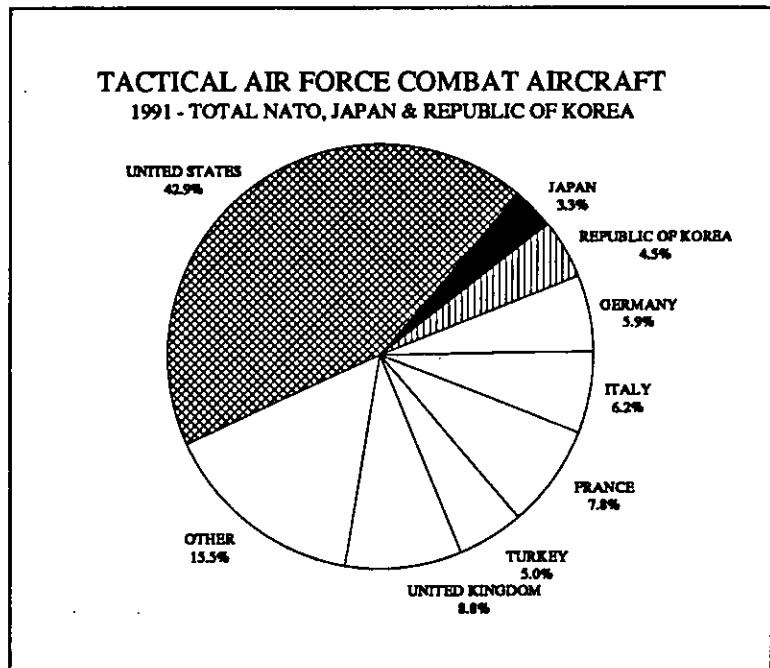


CHART II-23

STRATEGIC NUCLEAR FORCES

The term "strategic nuclear forces" can be defined in a variety of ways. For the purposes of this analysis, U.S. strategic nuclear forces consist of submarine-launched ballistic missiles (SLBMs), intercontinental ballistic missiles (ICBMs), and intercontinental bombers (B-1 and B-52). On the allied side, the assessment includes French intermediate-range ballistic missiles (IRBMs) (i.e., the S-3), Mirage IVP bombers, and French and British SLBMs. Charts II-24, II-25, and II-26 depict the U.S. and allied holdings of these forces.

As one might expect, a large proportion of the total number of strategic nuclear forces within the

Alliance belong to the United States. Based on the Joint Understanding and Agreement between the Russian republic and the United States in June 1992, however, the number of warheads in the U.S. strategic nuclear arsenal will eventually decline by roughly two-thirds. France and the United Kingdom account for the remainder. Several U.S. allies have national policies prohibiting the ownership of nuclear weapons. This distribution of nuclear forces is consistent with U.S. nuclear nonproliferation policy.

The strategic nuclear holdings for France and the United Kingdom mainly comprise SLBMs. Out of 800 SLBM launch tubes owned by the United States and its allies, about 20 percent belong to France and the United Kingdom (96 and 64 tubes, respectively). France, with its 25 strategic nuclear bombers and 18 IRBMs, possesses the remainder of the allied strategic nuclear weapons inventory.

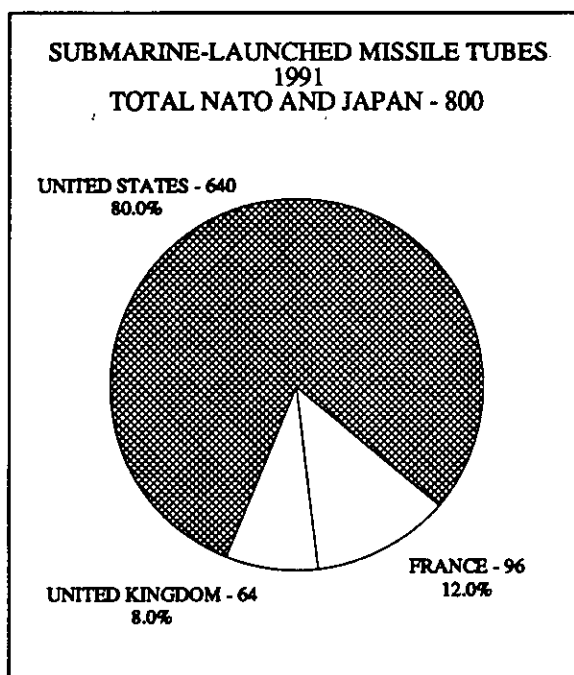


CHART II-24

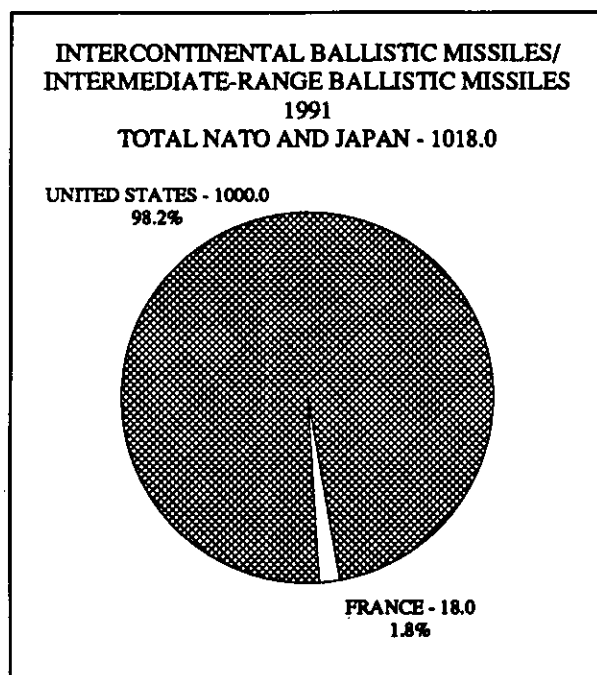


CHART II-25

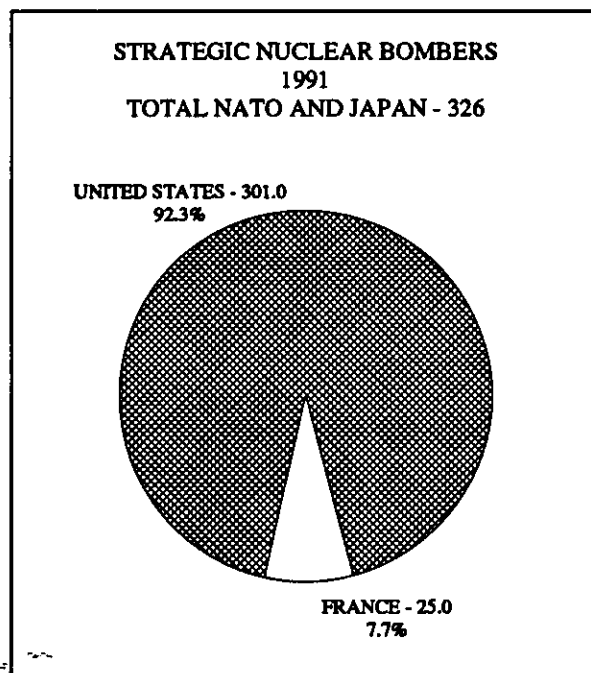


CHART II-26

Like the United States, France and the United Kingdom are in the process of modernizing their strategic nuclear force structures. The French government is reconsidering the make-up of its nuclear forces. France is contemplating the possibility of moving from a strategic triad to a dyad and has scrapped plans to replace the aging S-3 IRBMs with the new mobile IRBMs (S-45). The French recently have begun to deploy a new submarine-launched missile and are planning the development of a follow-on system. France's first new generation SSBN, the Triomphant, is slated to come into service in 1994. The British are replacing their Polaris force with new

submarines equipped with the Trident II missile. These improvements will increase significantly the quantity and quality of the warheads contained in the allied SLBM arsenals.

BURDENSARING PROSPECTS FOR THE MID-1990s

The profound changes in the European security situation that were set in motion in 1989 have continued--and accelerated--through 1991, culminating in the formal disintegration of the Soviet Union in December of 1991 and the creation of the Commonwealth of Independent States in its place. It is clear that Western security prospects have improved immensely; however, the real and potential instabilities brought about by the remarkable changes of the last two years mean that NATO will have to respond to a new type of security challenge.

This section provides an overview of the evolving defense plans of the NATO nations, and draws initial conclusions as to their burdensharing implications. Two important differences must be noted that distinguish the following analysis from assessments presented elsewhere in this Report. First, while the rest of the Report addresses past trends and current developments, this section focuses on the prospective impacts of national defense plans on the burdensharing discussion. Second, whereas data presented elsewhere in this document include worldwide forces maintained by NATO nations, Japan, and the Republic of Korea, this section includes only those forces reported by NATO nations in their most recent replies to the *Defense Planning Questionnaire* (DPQ), updated as appropriate with information developed by NATO. (Note: France is excluded from consideration in this section since it does not participate in NATO's integrated defense plans and does not submit a reply to the DPQ.)

NATO'S NEW STRATEGIC CONCEPT

The changing requirements of European security were recognized by the Rome summit of 1991 with the declaration of a new strategic concept for the Alliance. Among other things, this new concept reiterates NATO's fundamental purposes of deterrence and defense, while stressing the volatility and uncertainty of the post-Cold War era. The concept also acknowledges that the new strategic environment will allow NATO to maintain smaller force structures, and on the ground side, to rely more heavily on reserve manpower.

An important element of the new strategic concept is continued recognition that "the achievement of the Alliance's objectives depends critically on the equitable sharing of roles, risks, and responsibilities, as well as the benefits, of common defense." The new concept also encourages the development of a "European security identity," and the assumption by the European NATO nations of a greater degree of responsibility for the defense of Europe.

CFE TREATY

The Treaty on Conventional Armed Forces in Europe (CFE) provisionally entered into force in July 1992, following reallocation of treaty ceilings by the eight affected former Soviet republics. Most NATO nations, including the United States, plan to shrink major equipment holdings to levels below their share of the ceilings--in some cases by a substantial margin. (In the case of combat aircraft, the treaty ceiling was set well above historical levels to accommodate Soviet concerns.) Consequently, treaty entitlements for tanks and aircraft are now seen only as reference points rather than planning objectives.

U.S. participation in the NATO equipment transfer plan was authorized by Congress last year, and the program is now being implemented. These transfers represent a cost-effective way to modernize Alliance

holdings by redistributing systems no longer needed by several nations, chiefly the United States, Germany, and the Netherlands. The most recent version of the plan envisions the transfer of over 4,000 pieces of equipment (mostly tanks) within the Alliance, of which the United States will provide approximately two-thirds. The portrayals in this paper include transferred equipment in the projections of national tank holdings.

NATO has agreed to support certain elements of treaty implementation with common funding, administered through the Infrastructure Committee. It is estimated that approximately 25 million Infrastructure Accounting Units (MIAU)--equal to roughly \$120 million--will be required to fund treaty destruction and equipment transfer. Funds would be reallocated from lower priority projects; thus, no nation would be asked to provide additional monies to the infrastructure account in support of CFE implementation.

FORCE RESTRUCTURING PLANS

Overview

Virtually all NATO nations plan to scale back the size of their forces in terms of structure, peacetime manning levels, and/or equipment holdings. Planned cutbacks across the major categories of *total* U.S. DPQ-reported ground, air, and naval forces match or, in many cases, exceed (in percentage terms) reductions projected for the non-U.S. NATO allies in the aggregate. In addition, planned cuts in U.S. *Europe-based* forces--of between 40 and 60 percent--are at least double the aggregate non-U.S. NATO reductions, and in some categories are much larger. As a consequence of these planned changes, the future U.S. share of *total* NATO forces is projected to decline in most key force categories, while the U.S. share of *Europe-based* NATO forces will decrease across all major categories.

Among the major NATO force components, ground forces stand to change the most as the United States and its allies reduce and restructure their armies with the aim of achieving smaller forces having enhanced mobility and flexibility. Air forces will implement smaller reductions, although many nations plan to decrease peacetime manning in support areas, consolidate bases, and modify selected modernization programs to avoid additional cuts in structure. Naval cutbacks are expected to be more modest than either land or air reductions during the 1991-1996 period. However, for many nations, cancellation of modernization programs and planned replacement of obsolete ships on less than a one-for-one basis will reduce the size of fleets into the next century. In most cases, the smaller fleets will be composed of very capable modern units.

Following adoption of NATO's new strategic concept, NATO nations continue to evaluate the evolving security situation. As a result, the information presented in this section--representing the best available data as of the publication of this Report--remains subject to change. Details for individual force components are discussed below and portrayed in Chart II-27.

Ground Forces

Our NATO allies in the aggregate plan active duty ground manpower reductions of over 20 percent, which coincide with the magnitude of projected reductions in *total* U.S. DPQ-reported ground manpower. U.S. ground forces manpower *in Europe* will be reduced by nearly 50 percent. Projected reductions in non-U.S. NATO ground combat formations will be on the order of 25 percent. Drawdowns in *total* U.S. ground combat units reported to NATO will be marginally higher. U.S. ground combat units *in Europe* will be cut by almost 60 percent.

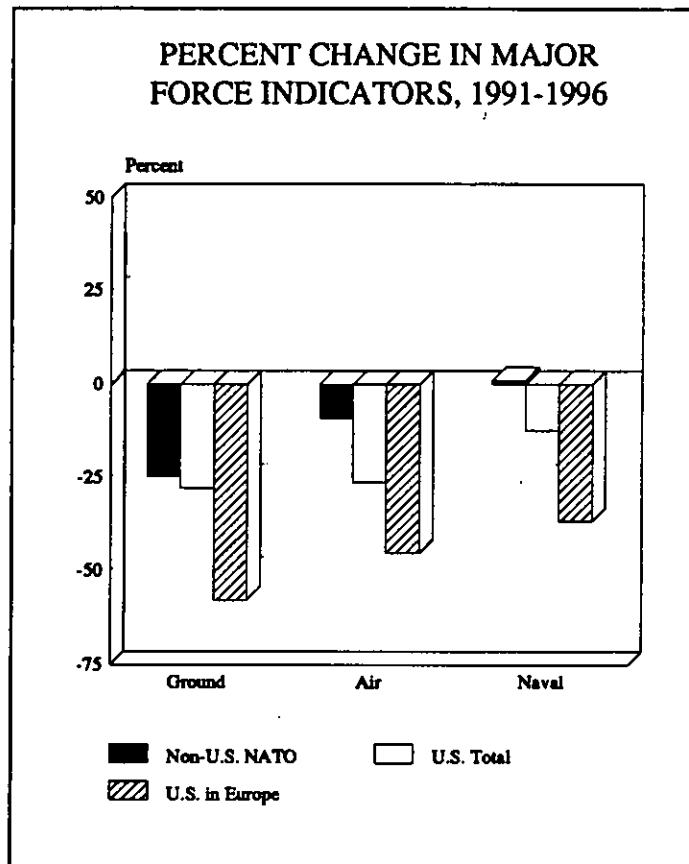


CHART II-27

Air Forces

The non-U.S. allies as a whole plan modest decreases in their combat aircraft inventories--on the order of 10 percent--by the mid-1990s, while continuing to procure new aircraft. The United States, on the other hand, plans to reduce its *total* NATO-reported combat air forces by roughly 25 percent. U.S. combat air forces *stationed in Europe* will be drawn down by just under 50 percent.

Naval Forces

Non-U.S. navies in the aggregate generally plan to retain current levels of principal surface combatants (PSCs) through the mid-1990s. The United States, however, plans a modest decrease in *total* PSCs allocated to NATO, and larger reductions--of roughly one-fourth--in their numbers *on station in Europe*.

ALLIED PERFORMANCE IN DEFENSE SPENDING

The following paragraphs address Congress' request for estimates of the rate of change in real defense spending for each of the NATO allies. Defense spending real growth for Japan and the Republic of Korea is also discussed.

NATO Defense Ministers decided in May 1990 to drop the objective, established in 1977, that NATO members increase defense spending by approximately three percent per year, measured in real terms. Nations are instead asked to devote to defense that level of spending necessary to maintain a credible and effective defense posture. Most NATO members, including the United States, are reassessing their military forces and spending levels.

Table II-28(B) presents country-by-country estimates of the percentage change in real defense spending from 1984 through 1991, some of which may still be subject to change. Since 1988 most non-U.S. NATO countries experienced negative or near-zero growth in real defense spending. Current 1991 estimates forecasts reflect that downward trend. This is consistent with shrinking defense budgets in a time of fiscal austerity and reassessment of the security situation.

U.S. defense outlays have been decreasing since 1987. The real declines in U.S. defense spending for 1991--*excluding* the effects of Operation Desert Shield/Storm--is estimated at 5.2 percent. Including Desert Shield/Storm would result in a 12.9 percent real decrease in 1991 (when most of the cash contributions from coalition and front-line states were received, thereby reducing net outlays). Operations Desert Shield/Storm are expected to result in a net cost to the United States government of no more than \$5.9 billion.

Several unique defense spending developments during the 1990-1991 period are worth noting in the cases of Germany and the United Kingdom. First, the 1.7 percent drop in German defense spending for 1990 excludes costs for the integration of the former East German military; including these additional expenditures would result in a 4.7 percent increase for 1990. Second, the relatively high 5.6 percent increase in U.K. defense spending for 1991 is attributable to Operation Desert Shield/Storm. If these additional expenditures were excluded, U.K. defense spending would show a real decrease of 0.3 percent in 1991.

Table II-28(A) provides a broader perspective on U.S. and non-U.S. defense spending by displaying country-by-country real growth from 1971 through the first part of the 1980s.

Although the real increases in U.S. spending exceeded by a wide margin the average growth rates of non-U.S. NATO defense programs during the early through mid-1980s, the high U.S. growth rates in those years reflected in part an effort to compensate for the real decreases and low growth rates we experienced during most of the 1970s, when our allies were achieving steady real increases.

Table II-28(C) displays "compound average" defense spending growth rates for specified periods. These growth rates take into account cumulative defense expenditures for each of the periods covered. U.S. cumulative real defense spending for 1971 through 1991 was approximately what it would have been if U.S. defense spending had declined by a uniform annual rate of 1 percent each year during that period. A comparable computation of real defense spending for non-U.S. NATO results in a uniform annual increase of roughly 2 percent.

A review of allied performance as depicted in Table II-28(C) shows that nearly all countries have maintained positive growth on the average. Belgium, France, Greece, Luxembourg, Spain and Turkey maintained significant growth in defense spending on the average for the 1971 to 1991 period, while Canada, Luxembourg, Norway, Spain, Turkey and the United States showed notable growth for the more recent period of 1978 through 1991.

Japan and the Republic of Korea are not a part of this Congressional reporting requirement, but their statistics are provided, for reference, in Table II-28. These figures indicate high rates of growth for both

countries throughout the 1970s and 1980s. Estimated real growth in Japanese defense spending reflects Japan's perception of the reduced threat in the Far East. The Republic of Korea, in contrast, is projected to increase its defense spending, reflecting the ROK's perception of a continued threat from North Korea and its need to modernize outdated weapon systems and command, control, and communication systems. The growth in the ROK's defense spending also reflects Korea's long term goal of developing a greater ability to protect its national security, especially in light of anticipated reductions of U.S. forces in the ROK. Korea averaged 10 percent real growth for the 1971 through 1991 period.

Table II-28 (A)

GROWTH IN TOTAL DEFENSE SPENDING OF NATO COUNTRIES, JAPAN, AND THE REPUBLIC OF KOREA
Percent Change from Previous Year in Constant Prices (Excluding Inflation)

	<u>1971</u>	<u>1973</u>	<u>1975</u>	<u>1976</u>	<u>1977</u>	<u>1978</u>	<u>1979</u>	<u>1980</u>	<u>1981</u>	<u>1982</u>	<u>1983</u>
Belgium	4.4	5.4	9.1	5.2	2.6	6.7	2.2	1.9	0.9	-0.1	-0.4
Canada	2.4	1.7	3.6	2.6	3.8	-0.2	-0.9	5.1	5.6	6.0	7.7
Denmark	-1.4	-3.4	2.0	1.7	3.7	4.1	0.3	0.7	0.6	-0.3	0.8
France (a)	1.0	3.3	2.9	4.1	5.9	5.0	2.8	4.0	4.3	1.9	1.7
Germany	4.4	4.4	-0.5	-0.1	-0.5	2.6	1.5	1.9	3.4	-0.4	0.9
Greece	6.0	-0.4	29.8	7.5	5.3	1.8	-2.8	-8.2	23.0	-1.4	-7.9
Italy	9.7	-1.3	-2.9	-0.7	4.5	1.4	2.6	4.9	-0.5	3.1	2.5
Luxembourg	1.5	9.1	6.2	7.1	-2.4	7.9	3.5	16.3	4.8	3.9	3.4
Netherlands	1.3	-0.7	3.5	-0.7	11.0	-4.8	4.2	-2.1	4.2	2.1	0.5
Norway	0.1	1.9	5.2	0.4	1.5	7.8	1.9	1.8	2.7	4.1	4.0
Portugal	12.7	-3.9	-31.6	-18.6	-7.3	1.8	5.6	4.6	1.6	1.9	-3.5
Spain	3.5	-3.3	7.6	5.0	1.8	2.1	4.8	9.3	2.3	1.9	4.3
Turkey	20.1	2.0	81.1	17.3	2.5	0.0	2.6	2.0	1.8	4.6	-4.4
United Kingdom	0.6	-1.6	3.9	-2.1	-2.4	-0.6	3.0	2.8	1.4	6.0	0.4
United States	-8.5	-8.5	-1.8	-3.8	0.2	1.4	3.2	4.2	5.0	6.7	7.7
Non-U.S. NATO (b)	3.2	1.0	2.6	0.9	1.9	1.9	2.3	3.0	3.0	2.5	1.3
NATO (b)	-4.6	-4.8	-0.0	-1.8	1.0	1.6	2.8	3.7	4.1	4.8	4.9
Japan (a), (c)	10.9	3.5	12.2	7.2	5.5	6.5	7.9	2.6	4.3	5.7	5.7
Republic of Korea (c)	16.5	-6.8	19.8	31.3	15.7	10.9	-1.2	19.2	1.4	10.9	0.9

Note: The spending totals from which these figures were derived reflect NATO's definition of defense spending and are the best estimates that can be made on the basis of information now available. National fiscal years correspond to calendar years except for Canada, Japan, and United Kingdom, which run from April to March, and the United States, which begins its fiscal year in October. Turkish data through 1981 are based on a March-February fiscal year; in 1983, Turkey converted to a January-December fiscal year.

(a) DoD estimate.

(b) Weighted-average growth rates developed using constant 1990 prices and 1990 exchange rates.

(c) Not included in totals.

Table II-28 (B)

GROWTH IN TOTAL DEFENSE SPENDING OF NATO COUNTRIES, JAPAN, AND THE REPUBLIC OF KOREA
Percent Change from Previous Year in Constant Prices (Excluding Inflation)

	<u>1984</u>	<u>1985</u>	<u>1986</u>	<u>1987</u>	<u>1988</u>	<u>1989</u>	<u>1990</u>	<u>1991 (estimate)</u>
Belgium	-1.3	0.1	5.0	1.8	-4.3	-1.4	-1.9	2.7
Canada	7.2	3.2	3.8	1.9	0.5	-0.7	1.7	0.6
Denmark	-1.1	0.9	-0.3	2.3	2.9	-1.0	0.3	0.1
France (a)	-0.2	-0.1	0.2	3.2	-0.5	1.3	0.3	0.1
Germany (b)	-0.6	0.2	-0.6	0.0	-1.1	-0.1	-1.7	-0.7
Greece	16.9	0.6	-10.5	2.0	3.7	-6.5	1.4	-1.7
Italy	2.8	3.0	1.0	5.8	4.5	-1.1	-8.9	-2.4
Luxembourg	0.5	-1.5	3.6	13.4	15.2	-8.1	4.5	8.1
Netherlands	3.2	0.4	3.8	1.7	-0.4	1.2	-2.0	-1.0
Norway	-4.6	15.2	-1.8	9.7	-3.6	3.0	0.8	2.7
Portugal	-3.9	-0.6	4.3	2.3	9.1	4.3	2.0	-3.1
Spain	-0.9	4.5	-4.5	12.6	-7.1	3.1	-6.6	-3.9
Turkey	-1.3	8.5	13.0	-1.3	3.4	12.0	15.0	3.9
United Kingdom	4.0	-0.1	-3.2	-2.1	-4.3	2.6	-4.1	5.6
United States (c)	4.3	6.6	6.3	-0.3	-1.5	-0.4	-2.9	-5.2
 Non-U.S. NATO (d)	 1.6	 1.1	 -0.4	 1.9	 -0.9	 0.9	 -2.2	 0.7
NATO (d)	3.2	4.4	3.6	0.5	-1.3	0.1	-2.6	-2.9
 Japan (a), (e)	 5.3	 5.4	 4.7	 5.2	 4.8	 4.1	 4.1	 2.7
Republic of Korea (e)	0.5	4.1	10.7	7.5	10.9	3.5	4.9	4.9

Note: The spending totals from which these figures were derived reflect NATO's definition of defense spending and are the best estimates that can be made on the basis of information now available. National fiscal years correspond to calendar years except for Canada, Japan, and United Kingdom, which run from April to March, and the United States, which begins its fiscal year in October. Turkish data through 1981 are based on a March-February fiscal year; in 1983, Turkey converted to a January-December fiscal year.

(a) DoD estimate.

(b) Excludes 1990 costs for the integration of the former East German military. Refer to text for details.

(c) FY1990 and FY1991 exclude the receipts/costs of Operation Desert Shield/Storm. Including these costs results in a 2.5 percent real decrease in 1990 and a 12.9 percent real decrease in 1991. Refer to text for details.

(d) Weighted-average growth rates developed using constant 1990 prices and 1990 exchange rates.

(e) Not included in totals.

Table II-28 (C)

**AVERAGE ANNUAL GROWTH IN TOTAL DEFENSE SPENDING OF NATO COUNTRIES, JAPAN
AND THE REPUBLIC OF KOREA**
Percent Change in Constant Prices (Excluding Inflation)

	<u>1971-1991(a)</u>	<u>1978-1991(a)</u>
Belgium	3.4	1.4
Canada	1.8	3.4
Denmark	0.5	0.9
France	2.7	2.3
Germany	2.0	1.0
Greece	5.9	0.9
Italy	2.1	1.8
Luxembourg	5.7	5.6
Netherlands	1.3	0.8
Norway	1.8	3.4
Portugal	-0.4	2.0
Spain	3.1	2.8
Turkey	8.4	2.8
United Kingdom	0.1	1.2
United States	-0.9	3.8
Non-U.S. NATO (b)	1.8	1.7
NATO (b)	0.1	2.8
Japan (c)	6.1	5.2
Republic of Korea (c)	10.4	6.4

Note: The spending totals from which these figures were derived reflect NATO's definition of defense spending and are the best estimates that can be made on the basis of information now available. National fiscal years correspond to calendar years except for Canada, Japan, and United Kingdom, which run from April to March, and the United States, which begins its fiscal year in October. Turkish data through 1981 are based on a March-February fiscal year; in 1983, Turkey converted to a January-December fiscal year.

(a) Averages computed using compound growth methodology.

(b) Weighted-average growth rates developed using constant 1990 prices and 1990 exchange rates.

(c) Not included in totals.

ECONOMIC AID AND DEVELOPMENT ASSISTANCE

Programs of economic aid and development assistance are sometimes cited as part of a nation's overall defense burden. In addition to military assistance, which is included in NATO's definition of defense expenditure, most industrialized NATO countries have for many years extended various types and amounts of assistance to developing countries. Now, in the wake of events over the past few years, NATO nations are also providing assistance to the emerging democracies and market economies of Central and Eastern Europe, and of the new independent states of the former Soviet Union.

While economic aid and development assistance do not add directly to NATO's defense capability, they do contribute to peace and stability, and they also constitute a financial burden on the donor's economy. Further defining "aid" is extremely difficult and can be misleading. For one thing, there is so much variation in the objectives and recipients of aid that direct comparisons among donor countries are very hard to make. Additional difficulties are introduced by such factors as exemptions to tariff and non-tariff barriers, monetary and non-monetary preferences, standards and codes, and a range of preferential commercial arrangements--all of which influence the amounts of types of assistance provided.

AID TO DEVELOPING COUNTRIES--OFFICIAL DEVELOPMENT ASSISTANCE (ODA)

The Organization for Economic Cooperation and Development (OECD)--whose membership includes all NATO nations, the European Community (EC) Commission, and Japan--oversees and orchestrates aid to developing countries through its Development Assistance Committee (DAC). Most of this aid, known as "official development assistance" or ODA, comes from DAC-member nations (all nations covered in this Report except Greece, Korea, Luxembourg, Portugal, Spain, and Turkey). Significant amounts of ODA are provided, however, by non-DAC nations (Luxembourg, Portugal and Spain), as well as by non-OECD nations (such as Korea). Table II-29 displays the ODA contributions of the countries covered in this Report, and also expresses these figures as a percentage of GDP.

AID TO CENTRAL AND EASTERN EUROPE--THE G-24 PROCESS

The emerging economies of Central and Eastern Europe are not eligible for official development assistance. However, since the Paris economic summit of 1989, Western assistance in support of political and economic changes in Central and Eastern European countries has been provided through a process known as the G-24 (for the number of nations participating as donors). The effort is coordinated by the European Community (EC) Commission, and included among the participating nations are the United States, our NATO allies, and Japan; the Republic of Korea does not participate in the G-24 process.

The G-24 was originally established to support projects in Poland and Hungary, but on the basis of economic reforms in Czechoslovakia, Bulgaria, Romania, and Albania, as well as in the Baltic States of Lithuania, Latvia, and Estonia, assistance is also extended to these countries. Subsidies are provided in the form of trade and investment credits, grants, and loan guarantees, and are directed into areas such as food aid, medical supplies, management training, environmental projects, market access/trade, and investment.

As shown in Table II-30, the G-24 process has fostered a considerable level of activity. For the eighteen months ending June 1991, the NATO nations and Japan contributed nearly \$7 billion in grant aid, and over \$17 billion in loans and credits to the G-24 recipients. About three-fourths of these sums were committed by the non-U.S. NATO allies.

Table II-29

NET OFFICIAL DEVELOPMENT ASSISTANCE

\$ MILLIONS

	1980	1984 (a)	1985 (a)	1986	1987	1988	1989	1990
Belgium	595	446	440	547	687	601	703	889
Canada	1075	1625	1631	1695	1885	2347	2320	2470
Denmark	481	449	440	695	859	922	937	1171
France	4162	3788	3995	5105	6525	6865	7450	9380
Germany	3567	2782	2942	3832	4391	4731	4948	6320
Italy	683	1098	1098	2403	2615	3193	3613	3395
Japan	3353	4319	3797	5634	7342	9134	8965	9069
Luxembourg	5	N/A	N/A	11	14	15	17	25
Netherlands	1630	1268	1136	1740	2094	2231	2094	2592
Norway	486	540	574	798	890	985	917	1205
Portugal	4	N/A	N/A	22	30	83	109	140
Republic of Korea	25	N/A	N/A	39	54	39	51	77
Spain	162	N/A	N/A	203	285	231	537	800
United Kingdom	1854	1429	1530	1737	1871	2645	2587	2647
United States	7138	8711	9403	9564	9115	10141	7676	11366
Non-U.S. NATO	14704	13425	13786	18788	22146	24849	26232	31034
NATO	21842	22136	23189	28352	31261	34990	33908	42400
NATO & Japan	25195	26455	26986	33986	38603	44124	42873	51469
NATO, Japan & Republic of Korea	25220	26455	26986	34025	38657	44163	42924	51546

PERCENT OF GDP

	1980	1984 (a)	1985 (a)	1986	1987	1988	1989	1990
Belgium	0.50%	0.58%	0.55%	0.49%	0.49%	0.40%	0.46%	0.46%
Canada	0.41%	0.48%	0.47%	0.47%	0.46%	0.48%	0.43%	0.43%
Denmark	0.73%	0.82%	0.76%	0.84%	0.84%	0.84%	0.88%	0.89%
France	0.63%	0.76%	0.76%	0.70%	0.73%	0.71%	0.77%	0.79%
Germany	0.44%	0.45%	0.48%	0.43%	0.40%	0.40%	0.42%	0.42%
Italy	0.15%	0.27%	0.26%	0.40%	0.34%	0.38%	0.42%	0.31%
Japan	0.32%	0.35%	0.29%	0.29%	0.31%	0.32%	0.32%	0.32%
Luxembourg	0.11%	N/A	N/A	0.22%	0.23%	0.22%	0.24%	0.29%
Netherlands	0.96%	1.02%	0.90%	0.99%	0.99%	0.98%	0.94%	0.93%
Norway	0.84%	0.97%	0.99%	1.15%	1.07%	1.10%	1.01%	1.14%
Portugal	0.02%	N/A	N/A	0.07%	0.08%	0.20%	0.24%	0.23%
Republic of Korea	0.04%	N/A	N/A	0.04%	0.04%	0.02%	0.02%	0.03%
Spain	0.08%	N/A	N/A	0.09%	0.10%	0.07%	0.14%	0.16%
United Kingdom	0.35%	0.33%	0.34%	0.31%	0.27%	0.32%	0.31%	0.27%
United States	0.27%	0.23%	0.24%	0.23%	0.20%	0.21%	0.15%	0.21%
Non-U.S. NATO	0.43%	0.51%	0.51%	0.49%	0.47%	0.47%	0.49%	0.47%
NATO	0.36%	0.35%	0.35%	0.35%	0.34%	0.35%	0.32%	0.35%
NATO & Japan	0.35%	0.35%	0.34%	0.34%	0.33%	0.34%	0.32%	0.35%
NATO, Japan & Republic of Korea	0.35%	0.35%	0.34%	0.34%	0.33%	0.34%	0.32%	0.34%

Source: OECD "DEVELOPMENT CO-OPERATION, Efforts and Policies of the Members of the Development Assistance Committee", December, 1991 (earlier editions of this report used for 1980 and 1984 data).

(a) 1984 and 1985 totals exclude Luxembourg, Portugal, the Republic of Korea, and Spain.

N/A = Not Available

Note that the category of loans and credits includes many different types of commitments, covering varying time periods; loan guarantees in particular often have an especially lengthy time horizon, and may or may not reflect eventual disbursements. For these reasons, the data on loans and credits should not be used to draw comparisons among nations.

In contrast to the data on loans and credits, commitments of grant aid are more likely to be actually disbursed. To portray relative levels of effort among donor nations, Table II-31 expresses nations' grant aid to Central and Eastern Europe as a percentage of their gross domestic products (GDPs) for the period in question. The ratios in the first column of Table II-31 reflect the national contributions taken from Table II-30. These figures, however, are understated by over \$1.7 billion--the amount contributed by the eleven NATO/EC nations to the EC Commission assistance program. These are in fact contributions originating in the EC member countries, that are essentially passed through the EC Commission to the G-24 recipients. To account for this, the ratios in the second column of Table II-31 include member state contributions to the EC Commission assistance program.

When these EC Commission contributions are included, nations with the highest ratio of G-24 grant aid to GDP include Denmark, Germany, Luxembourg, Norway, Iceland, the Netherlands, and Italy, each exceeding the aggregate ratio for NATO plus Japan. The ratios for France, Belgium, and Greece are slightly below this aggregate average.

Table II-30

**ASSISTANCE TO CENTRAL AND EASTERN EUROPE
IN MILLIONS OF US \$
(January 1990 - June 1991)**

	<u>Grants</u>	<u>Loans and Credits *</u>
Belgium	0.0	177.0
Canada	52.7	85.0
Denmark	322.2	62.5
France	179.3	1329.5
Germany	2196.1	7351.0
Greece	1.2	0.0
Iceland	3.7	0.2
Italy	290.0	854.8
Luxembourg	2.5	23.6
Netherlands	50.8	108.5
Norway	70.9	65.0
Portugal	0.0	2.4
Spain	3.6	499.3
Turkey	4.8	379.1
United Kingdom	45.6	758.2
United States	1294.3	1078.4
Korea	N/A	N/A
Japan	627.5	2016.0
EC Commission **	1735.1	2599.5
Non-U.S. NATO	4968.9	14295.6
NATO	6263.2	15374.0
NATO+Japan	6890.7	17390.0

* The numbers in this column cover widely varying time periods and differing types of commitments, and therefore should not be used to compare contributions among nations. However, the figures are suggestive of the level of G-24 activity in support of political and economic development and reform in Central and Eastern Europe.

** Excludes estimated contributions from Ireland.
N/A is Not Applicable

SOURCE: EC Commission, October 1991

Table II-31

G-24 GRANT AID AS A PERCENTAGE OF GROSS DOMESTIC PRODUCT (GDP)

	<u>National Contributions</u>	<u>Including EC Commission Assistance</u>
Belgium *	0.000%	0.025%
Canada	0.006%	0.006%
Denmark *	0.164%	0.181%
France *	0.010%	0.029%
Germany *	0.097%	0.117%
Greece *	0.001%	0.024%
Iceland	0.043%	0.043%
Italy *	0.018%	0.036%
Luxembourg *	0.019%	0.045%
Netherlands *	0.012%	0.037%
Norway	0.044%	0.044%
Portugal *	0.000%	0.019%
Spain *	0.001%	0.020%
Turkey	0.003%	0.003%
United Kingdom *	0.003%	0.021%
United States	0.016%	0.016%
Korea	N/A	N/A
Japan	0.014%	0.014%
Non-U.S. NATO	0.032%	0.049%
NATO	0.025%	0.034%
NATO+Japan	0.023%	0.030%

* Denotes EC Member

N/A is Not Applicable

AID TO THE SOVIET UNION AND THE NEW INDEPENDENT STATES OF THE FORMER SOVIET UNION

Sizable offers of Western economic aid to the Soviet Union began in connection with German unification, when, in 1990, Bonn provided assistance in withdrawing and relocating Soviet forces from what had been East Germany. Later that year, and throughout 1991, additional donors began organizing assistance programs for the Soviet Union, coordinated primarily by the Group of Seven (G-7), made up of Canada, France, Germany, Italy, Japan, the United Kingdom, and the United States. In the fall of 1991, the European Community, Japan, and the United States each announced Soviet economic assistance packages totaling around \$2.5 billion apiece, while Canada produced a much smaller package. Shortly thereafter the G-7 nations met in Thailand to discuss further measures to help the Soviet economy. In addition, beginning in early 1991, the Republic of Korea agreed to provide a package of loans and credits to the Soviet Union shortly after normalization of relations between the two countries, including \$1 billion in consumer goods exports.

Although it is still too early for a thorough accounting, unofficial estimates by the European Commission indicate that by the end of 1991, around \$70 billion of various types of economic assistance had been pledged to help the Soviet Union. Of this sum, Germany contributed about one-half (including substantial amounts associated with German unification); other major donors included the United States (roughly \$5 billion); the European Community Commission (around \$4 billion) and Japan (under \$3 billion).

Following the collapse of centralized authority in Moscow in December 1991, the urgent need for economic aid in the twelve newly-autonomous republics captured increased attention. In January 1992, the United States hosted the Coordinating Conference on Assistance to the New Independent States, attended by representatives from 47 countries--including those addressed in this Report--as well as representatives of the United Nations and six other major international institutions. Assistance efforts highlighted at the conference addressed a wide range of issues, including the provision of food, medicine, shelter, and energy.

- In the area of food, for example, work is concentrated in meeting urgent humanitarian food needs and providing technical assistance to reform food production and distribution systems.
- On the medical front, an information clearinghouse is being established to match needs with donors, and efforts are being undertaken to increase private sector involvement.
- With respect to shelter, programs are planned to counsel municipal governments in the new independent states on structural reform of the supply and distribution of civilian housing; effort is also being focused on housing for the military.
- Energy assistance is aimed at assuring fuel for the transport of food and medicine, overcoming supply bottlenecks in areas of critical shortage, and increasing energy efficiency.
- In addition to these projects, technical assistance efforts in the areas of democratic and free market institutions, and in defense conversion, have been given a high priority.

In early April, following extensive consultations among the G-7 nations and major international financial institutions, President Bush announced U.S. support for an unprecedented multilateral program to support reform in the new independent states of the former Soviet Union. The package would total approximately \$24 billion in aid, including \$18 billion in loans, debt deferral, and other financial assistance from

international institutions to address shortages in balance of payments, and an additional \$6 billion for currency stabilization. Estimates of the U.S. share of this initiative are between \$6-7 billion.

The President also announced additional proposals, including:

- The Freedom Support Act of 1992, which provides a flexible framework to encourage reform in Russia and Eurasia, including unlocking Cold War restrictions on developing trade and investment with the new independent states;
- A pending request for \$12 billion in loan guarantees to the International Monetary Fund (IMF);
- An immediate increase of \$1.1 billion in credit guarantees for the purchase of U.S. agricultural commodities.

It is clear that programs of this sort are essential to advancing the cause of peace and stability in the post-Cold War world. The types and levels of assistance outlined above--from the United States, our allies, and the international community at-large--constitute an important new dimension of burdensharing.

III. EFFORTS TO ELIMINATE DISPARITIES AND IMPROVE ALLIED PERFORMANCE

GENERAL

The Administration strongly supports the principle that the roles, responsibilities, risks, and costs of defense should be equitably shared among allies. The fundamental purpose of entering into security agreements with other nations is to protect U.S. security interests through international cooperation and multinational contributions to achieving shared goals. The United States continually works with its alliance partners to ensure that each is participating to the fullest extent possible in cooperative defense efforts. Maintaining equitable sharing of roles, responsibilities, risks, and costs is particularly important as national defense budgets, force structures, and alliance relationships adapt to a new international security environment.

The Administration also takes Congressional interest in defense burdensharing very seriously. Most recently, Congress, in an amendment to the 1992 Defense Authorization Act, called on the President to consult with allies to seek to achieve agreements on equitable defense cost sharing. The amendment also specified that progress towards achieving those agreements be outlined annually in this Report to Congress.

As noted elsewhere in this report, contributions to protecting mutual security interests can take many forms. Burdensharing is a function of the purpose and nature of defense agreements; each ally's economic well being; their military, political, and economic contributions to shared international goals; and the cooperative roles and obligations established in bilateral and multilateral defense agreements. First and foremost among these factors from the U.S. perspective, however, is the strategic benefit that the United States itself realizes from the defense agreement. This factor is especially important in determining what, if anything, allies should contribute to supporting U.S. forward presence.

COST SHARING NEGOTIATIONS

Defense cost sharing, or host nation support, is one aspect of the overall burdensharing equation. It involves both cash and in-kind contributions made by allies to support the stationing of U.S. forces on their soil. Japan makes the largest host nation support contributions of any of our allies, amounting to well over \$3 billion dollars a year in cash payments, in-kind support, offsets, rent-free land and facilities. Korea is providing \$180 million dollars in cash and in-kind cost sharing in 1992 -- a figure that is scheduled to increase to around \$300 million dollars in 1995. Certain NATO allies also make important host nation support contributions, with Germany providing the largest amount of direct and indirect support.

The Administration is seeking to enhance defense cost sharing where appropriate. Efforts are underway to complete implementation of the defense cost sharing agreements with Japan and Korea. Although a few details remain to be worked out, implementation is going very smoothly as these allies increase their share of U.S. stationing costs.

Cost sharing is also an element of Administration participation in NATO efforts to re-formulate sharing of roles, risks, responsibilities, and costs in a new security environment. The Administration has proposed (and the Alliance has accepted in principle) a collective cost sharing initiative whereby NATO would assume the operations and maintenance costs of facilities in Europe that support reinforcement of NATO by forces stationed in the United States. Cost sharing negotiations with individual NATO allies

will follow, focusing on local labor costs and other stationing costs. Finally, the Administration is evaluating existing host nation support arrangements throughout NATO to identify any that may need updating to meet future alliance requirements.

The remainder of this chapter focuses on efforts to ensure equitable sharing of the roles, risks, responsibilities, and costs of defense among our allies. In general, these efforts -- by the Administration, our allies, and NATO -- are resulting in a more equitable sharing of responsibility for protecting mutual international security interests.

NATO-EUROPE

Administration efforts to improve NATO allied performance take place in the context of the new security situation facing the Alliance.

The changes that have occurred in Central and Eastern Europe over the last two years, both in the political and military spheres, have outpaced the expectations of even the most optimistic observers. The traditional threat to NATO of a massive, short-warning attack from the East has evaporated. Democracies are emerging from the ashes of the Soviet empire and are struggling to resurrect shattered economies. Long-dormant nationalist movements and ethnic rivalries, however, are also re-awakening. At the same time, Western Europe has moved toward increased integration and continues its efforts to further refine its economic, political and defense identities.

In this time of uncertainty, most nations of Europe continue to look to NATO as a bedrock of stability in a sea of change. In developing their defense identity, our European allies have, in large measure, taken care that a strengthened European Pillar does not weaken NATO. Also, NATO's former adversaries want NATO to continue to exist and have asked to become members of the Alliance. These developments stand as a tribute not only to the goals and values for which NATO stands, but also as a clear recognition of the value of NATO as a vehicle for cooperation, dialogue and, most importantly, stability in a rapidly changing world.

NATO has not stood still during this period of transition. The London Declaration, issued by NATO heads of state and government in July 1990, committed the Alliance to the development of a new strategic concept, which was completed and approved in Rome in November 1991. This strategy recognizes and responds to the new geopolitical environment in Europe. It calls for smaller, more mobile, multinational forces that can be maintained at lower readiness levels.

In November 1991, at the Rome Summit, NATO issued a Declaration on Peace and Cooperation. This Declaration stated NATO's intent to develop a closer relationship with the countries of Central and Eastern Europe through consultation and cooperation on political and security issues. In December, the first meeting of the North Atlantic Cooperation Council, comprising the ministers of foreign affairs from the NATO nations, the new democracies of Central and Eastern Europe, and the newly-independent states of the former Soviet Union, was held at NATO Headquarters. NATO nations have also taken concrete measures to assist these countries in their quest to provide for their peoples economically, and to develop democratic institutions of government. NATO nations, individually and collectively, have made significant monetary and material contributions, particularly in the areas of humanitarian assistance, environmental cleanup and economic development. These measures, which continue to expand, will serve to promote NATO's shared democratic values in peace and freedom.

Peace, security and stability in Europe have always been based on more than just the military and defense efforts of Alliance members. The assessment of our allies' sharing of the risks, roles and responsibilities for European security and stability must take into consideration political and economic contributions that are harder to quantify. Failure to take aggregate contributions adequately into account not only creates a false impression, but it damages the U.S. in this Alliance. The costs of building such security and stability take different forms. (For example, expenses incurred by Germany relative to unification contribute enormously to increased security in Europe.) Additionally, the emerging democracies in Central and Eastern Europe and in the former Soviet Union are now looking to NATO for assistance in building democratic political and military structures. The help NATO provides to these nations will promote the principles of stability, peace and freedom that the U.S. has long advocated. Therefore, we must carefully consider the consequences of any action that could be perceived by other nations as a lessening of support for the Alliance.

The U.S. clearly benefits from our membership in the Alliance, often in ways that are difficult to quantify. Our leadership position in NATO, and the significant political benefits which flow from it, are directly related to the resources we devote to the Alliance, which is the most important forum for U.S. multilateral participation with our European allies. We have also been successful in seeking common funding for NATO military requirements, thereby reducing expenditures for the United States by sharing costs among alliance members. NATO recently approved in principle an initiative proposed by the U.S. Ambassador-at-Large for Burdensharing to explore further areas for common funding of NATO defense requirements. The U.S. high technology and industrial base, and the jobs created therein, have prospered because of our participation in NATO, and we have preserved a market for our products which otherwise might become more restricted.

The crisis in the Gulf clearly demonstrated the benefit to the U.S. of the cooperation and dialogue within the Alliance. Our NATO allies made significant efforts to support U.S. leadership in the Gulf crisis, including military deployments, financial assistance to front line states and other coalition partners, granting critical over-flight rights, and the use of landing, port and maintenance facilities. In addition, NATO's planning, accounting systems, consultation procedures, prepositioned equipment, and considerable interoperability, enhanced our collective effort in the Gulf. The U.S. alone would have been unable as rapidly to deploy land and air forces to Saudi Arabia in the dangerous days immediately following the Iraqi invasion of Kuwait without the assistance of our allies. Once in place, the interoperability of equipment, as well as the procedures and habits of military operations worked out over years of cooperation with our NATO allies, greatly enhanced our ability to fight side by side during the conflict.

In response to the changes which have occurred in Europe over the past two years, and in accordance with NATO's new strategic concept, NATO's Major Commanders are developing detailed requirements for NATO's new force structure. The decline in the immediate threat and the significant reduction in the number of offensive weapons deployed in Europe, coupled with increased warning time, will allow NATO peacetime active forces to be smaller, and readiness levels of many forces to be changed. An increased amount of the Alliance's military potential will be contained in reserve and mobilizable forces. Most NATO members have completed reviews of their defense postures and spending levels. Some, most notably the U.S., United Kingdom and Germany, have begun to reduce defense spending significantly. Others, such as Norway, Denmark, Portugal, and Turkey, have committed themselves to maintain spending levels at least for the near term. These changes will alter the relative contributions of NATO members to the Alliance, and should further narrow the spending gap between the share of U.S. GDP devoted to defense and that of the NATO allies.

Current defense planning within the U.S. and the Alliance offers promise of increased allied burdensharing. U.S. forces permanently stationed in Europe will be cut by 1995. Our Europe-based ground and air forces will be reduced by roughly 50 percent, and our tactical nuclear weapons will be cut back by 80 percent. At the same time, U.S. forces will increasingly participate in multinational formations, such as the ACE Mobile Force and the standing Naval Force Atlantic, in which we take part.

As the Alliance reacts to changes in the threat and increased warning time, greater emphasis will be placed on mobilizable forces, which can be called up and deployed in response to a crisis. This allows the Alliance to reduce the size of its standing forces and, in general, reduce the readiness and availability of the active forces that remain, which could allow reduced costs associated with active units. However, adequate funding must be provided to ensure reserve and mobilizable forces are well equipped, adequately trained and exercised, and capable of rapid recall. Further, adequate NATO infrastructure support facilities for such things as command and control, wartime host nation support, POMCUS, and war reserve fuel supplies must be maintained to facilitate mobilization and reinforcement.

In recent developments, the NATO project to construct a new air base for the proposed transfer of the U.S. 401st Tactical Fighter Wing to Crotone, Italy, was officially terminated by the NATO Defense Ministers at the December 1991 Defense Planning Committee Meeting. At the same time, however, the Alliance reaffirmed its position that "even in the new security environment, a U.S. fighter presence in the Southern Region is a crucial element of Alliance defense strategy and is necessary for maintaining stability in this important region." The Alliance remains committed to the unprecedented burdensharing effort it agreed to undertake in 1988 in order to assist in the retention of a U.S. fighter presence in the Southern Region.

BURDENSARING AND NATO DEFENSE PLANNING

The Force Planning Process is a principal means of influencing our NATO allies' defense plans and programs. From a burdensharing point of view, Force Goals represent NATO's assessment of the measures each nation should implement to move toward a fair national share of the collective defense.

NATO's planning process comprises the planning disciplines necessary to develop and maintain a credible defense capability. The process considers forces, armaments, infrastructure, logistics, communications, command and control, air defense, civil emergency planning -- including civil support of the military -- and nuclear matters. However, the most broadly-based of NATO's planning disciplines is biennial force planning through the Force Goal process. It aims at recommending reasonable and realistic overall national levels of effort and seeks to produce packages of specific goals that will promote modernization, readiness and sustainability within the Alliance. This process also serves as the mechanism by which nations commit forces to NATO.

Superimposed on this two-year cycle for setting force goals is an annual review to assess the nations' performance in meeting their force goals. National replies to NATO's detailed *Defense Planning Questionnaire* (DPQ) cover force goal implementation, force commitments and, essentially, all the activities of the national military authorities. In addition, the Annual Review serves to influence the next cycle of Force Goals and to persuade nations to improve performance.

Other planning disciplines complement Force Planning. Armaments Planning promotes cooperation in research, development, production and acquisition of the equipment the forces require. The NATO common-funded Infrastructure Program provides the facilities needed to support NATO-committed forces. These include: airfields and shelters; pipelines and fuel depots; naval bases; strategic

and tactical communications networks; navigational aids; training installations; war headquarters; warning installations; missile sites; forward storage; and reinforcement support facilities. Civil Emergency Planning assists reinforcement movement of troops and supplies.

NUCLEAR PLANNING GROUP

NATO's Nuclear Planning Group (NPG) includes the Defense Ministers of all Alliance countries except Iceland, which attends as an observer, and France. As a result of the NPG's recent review of NATO nuclear policy and force posture, Ministers decided that the Alliance will maintain for the foreseeable future an appropriate mix of nuclear and conventional forces based in Europe, kept up to date where necessary, although at a significantly reduced level. Ministers also stressed the continued importance of sharing the risks and responsibilities of nuclear roles and missions.

The Alliance's new strategic concept enunciates NATO's strong commitment to sharing nuclear responsibilities. It states that a credible Alliance nuclear posture, the demonstration of Alliance solidarity, and a common commitment to war prevention will continue to require widespread participation in nuclear roles, in peacetime basing of nuclear forces on their territory, and in command, control, and consultation arrangements.

COMMONLY-FUNDED PROGRAMS

In NATO, common funding and cost sharing go hand-in-hand with cooperation for common defense, and are among the Alliance's oldest and truest tools to promote burdensharing equity. This common funding theme applies to the NATO Infrastructure Program; to the program for the operations and maintenance (O&M) of NATO Military Headquarters, agencies and common-use facilities; and to the NATO Civil Budget for O&M of the NATO Headquarters and Civil Preparedness Programs.

The NATO Infrastructure Program, adopted originally from the Western European Union, is based on the concept that nations contribute to a common fund based generally on their abilities to pay. Funding is provided for those projects that are identified by the Major NATO Commanders to support NATO-assigned operational forces in their wartime roles. Initially, the program applied to fixed facilities; but over time it has been adapted to meet many changing needs of the Alliance. For example, NATO has agreed to use the fund to pay for certain transfer and destruction costs of CFE Treaty implementation, as well as a post-CFE requirement for embarkation facilities on the East Coast of North America. Another new area in which the Infrastructure Program may expand is environmental cleanup.

The Infrastructure Program is also the focus of the Administration's NATO Collective Cost-Sharing Initiative. The initiative, approved in principle in May 1992, calls for common funding of the operation and maintenance costs of facilities in Europe that support reinforcement of NATO by forces stationed in the United States. These O&M costs, currently borne by the United States, amount to approximately \$270 million dollars a year. For the cost that NATO agrees to fund, the U.S. will realize a savings of over 70% (determined by our share of infrastructure contributions).

In the wake of the significant force reductions being planned by the U.S. and the allies, NATO is continuing a comprehensive screening of all NATO Infrastructure projects programmed since 1985. As a result, annual expenditure levels are expected to fall from \$1.6 billion dollars in 1990 to \$1.2 billion dollars in 1992. Additional adjustments are expected as the screening continues. Reduced, but still substantial, funding is required in FY 1993 to satisfy contractual obligations, continue recoupments, restore the existing inventory, and support some new essential work.

In addition, in early 1991, the North Atlantic Council tasked the NATO Military Authorities and a special *ad hoc* group to conduct a Fundamental Review of the NATO Infrastructure Program. This includes reconfirming the principles and reviewing the management procedures of the Infrastructure Program to ensure the continued relevance of the program in a period of changing requirements and declining resources. The United States is in active consultation with other NATO countries to restructure the program.

Another important example of Alliance burdensharing is the NATO Military Budget. The program funds NATO Headquarters functions and a wide variety of support and research agencies. It also is responsible for continuing operation and maintenance support for Infrastructure projects. The U.S. share of the total Military Budget for 1992 is about \$288 million dollars -- i.e., \$101 million dollars for NATO Airborne Early Warning and \$177 million dollars for the Military Budget. The overall U.S. percentage share of the 1992 Military Budget is approximately 32 percent across all programs.

Another common-funded category is covered by the NATO Civil Budget, which provides for the O&M costs of the NATO Headquarters building in Brussels, for its civilian personnel, and for a few NATO non-military activities including science, information, and civil emergency planning. The Civil Budget is financed by all NATO countries, generally from non-defense budgets. The U.S. share of the 1992 16-nation Civil Budget is about 23 percent, which is funded almost entirely by the Department of State.

The NATO Science Program is a jointly-funded program of the Civil Budget that promotes scientific research through grants and fellowships to scientists from Alliance nations, now available as well to collaborating scientists in Central and Eastern Europe, including the former Soviet Union. One element of the program, "Science for Stability," is designed to stimulate domestic technology development among the Alliance's less economically developed members -- Greece, Turkey and Portugal. The program aims to promote links between academe, science and industry in the three countries. The cost of the overall science program is approximately \$30 million dollars, which includes the "Science for Stability" program budget of about \$5 million dollars. A small fund (\$150 thousand dollars) is incorporated to support NATO's environment program, which is generally financed by participating nations, within their own agency budgets, on a case-by-case basis.

A major review and revision of the NATO consultation, command and control (NATO C3) Master Plan and Investment Strategy has been initiated. New concepts and policy guidelines, responding to the changed threat, have been formulated which envision an extended use of national military and civilian communication systems to meet NATO C3 requirements in times of peace, crisis and war. Similarly, while the NATO Air Command and Control System (ACCS) continues to be considered essential, investment plans have been reduced substantially. Increased emphasis is now being given to the introduction of enhanced, deployable ACCS elements (vice hardened, static ones) to meet contingency, rapid reaction, and mobile force support requirements. An increased part of ACCS is now envisioned to be nationally funded.

The Von Karman Institute is a post-graduate research center in fluid dynamics, located just outside Brussels, Belgium, which has an international reputation as a research center. VKI is funded by 14 members of the Alliance and has a staff of students and instructors nominated by the supporting member nations. The U.S. share of the VKI budget is 12.8 percent; and U.S. funding (approximately \$400 thousand dollars) is provided by the U.S. Air Force.

JOINTLY-FUNDED PROGRAMS

There have been numerous other cooperatively-financed joint ventures in NATO. National financial contributions vary and involve only those countries that have special reasons to participate and share costs. Cooperatively-financed joint ventures include consortia financing programs that usually involve co-production or joint ventures. These are developed by the participating countries and endorsed by NATO. Country contributions usually relate directly to the benefit that each country expects from the project. This consortium approach has been used to procure, store and distribute spares, replacement components and supplies, and to operate installations that serve only directly participating and paying countries. The NATO HAWK Production and Logistics Organization (NHPLO) is an example of cooperative support for a single system.

The NATO Maintenance and Supply Agency (NAMSA) in Luxembourg provides logistics support to a number of weapons systems, as well as administering multinational procurements for program participants. Significantly, four additional logistics support programs (M-46 torpedoes, C-130 aircraft, M113 personnel carriers, and M-60 tanks) have been formed by NAMSA to provide order-of-magnitude and configuration management to the participating nations. These four multinational programs will use international competitive bidding for all procurements, thus offering expanded opportunities for U.S. industry.

COOPERATIVE LOGISTICS

The new NATO strategy and multinational force structure, coupled with the limitations on defense resources, are increasing demands for better and more economic rationalization of logistics programs. Improvements in defense industrial preparedness and sustainability, and increased efforts to form cooperative logistics support programs, will continue to be essential. The potential identified last year -- expanding the role of the NATO Maintenance and Supply Agency (NAMSA) as a logistics clearinghouse -- is now in the planning stage for implementation following approval by the Board of Directors. Additionally, the agency ably demonstrated its cooperative logistics benefits during the Gulf War in quickly responding to support requirements from NATO nations involved in the operation. These experiences and changes are leading to a fundamental change in NATO policies which recognize and give focus to the increasing need for cooperative multinational approaches to logistics support.

CENTRAL AND EASTERN EUROPE LIAISON PROGRAM

In 1991, the Alliance significantly expanded its outreach program to its former adversaries in Central and Eastern Europe (C/EE). The NATO liaison program with the new C/EE democracies is an outgrowth of alliance initiatives developed at the London Summit in 1990, the June 1991 Copenhagen NAC Foreign Minister's Meeting, and the Rome Summit in November 1991, and seeks to expand political, economic and military discussions with C/EE countries.

The centerpiece of the Alliance's liaison effort is the North Atlantic Cooperation Council (NACC), which held its first meeting between NATO and C/EE foreign ministers at Brussels in December 1991. Alliance and C/EE nations are now developing a NACC work plan to regularize contacts at all levels and develop concrete initiatives in fields such as defense conversion; defense-related environmental issues; humanitarian assistance and protection of civilian populations; and civil-military relations. From an alliance perspective, the short- to medium-term goal of the liaison program is to assist the C/EE countries in their political, economic and military transition to free-market democracies. Much

of this agenda is also now appropriate for the newly-independent states of the former Soviet Union. Over the longer term, the liaison program will result in a significant NATO contribution to the creation of a flourishing Euro-Atlantic democratic community.

ARMAMENTS COOPERATION

NATO's Conference of National Armaments Directors (CNAD) has completed development of its first Conventional Armaments Plan (CAP), which links Alliance force planning to armaments planning. The CAP provides recommendations for armaments cooperation to the CNAD and to nations on how alliance needs can best be met by national armaments programs; assists in better aligning national armaments goals with NATO force goals; and identifies opportunities for potential cooperation. The decline of armaments cooperation activity in the Alliance is largely the result of the economic imperatives of a changing Europe, and has resulted in a number of setbacks and canceled projects. Sustained economic and political pressures in all NATO capitals to reduce defense spending, however, makes international cooperative development even more important in maximizing scarce resources and providing for technologically superior conventional forces. Cooperation provides a means for allied cost sharing of U.S. equipment development.

Executive-level emphasis, congressional support, and the services' commitment is essential if long-term cooperative programs, bilateral and/or multilateral research projects, co-development, co-production, and cross-purchases of equipment are to be achieved. The U.S. is focusing on NATO cooperative research and development projects as a means to reduce duplication of research, development, testing and evaluation expenditures and maximize common weapons deployments. The U.S. also stresses comparative side-by-side testing of systems developed by other NATO nations that might be less costly alternatives to new U.S. systems. We are also developing procedures that will further reduce system acquisition costs by allowing reciprocal acceptance of foreign-produced qualification testing for certain critical products used in defense weapons systems. Finally, we are working hard to improve U.S. support for the process, including maintenance of adequate funding throughout the life of the project. The December 1991 approval of the CAP 90/91 at Ministerial level should form the basis for renewed cooperation in NATO.

The pursuit of cooperative research and development projects is an effective means of sharing the costs of modernizing the Alliance's conventional defense capabilities while at the same time fielding standardized equipment. Cooperative programs are a clear expression of NATO solidarity and continued commitment to ensure the security of the Alliance.

SUSTAINABILITY

NATO programs, such as the consolidated procurement of ammunition, Regional Stocks under CINCSOUTH Control (RSCC), and adoption of a Single Fuel Concept, are progressing. The recurring concerns over levels of War Reserve Stockage have abated somewhat with the diminished threat. However, NATO nations are being encouraged to maintain holdings pending completion of the "threat oriented" methodology that will be the basis of new stockpile planning guidance. Additionally, the new emphasis on increased flexibility and mobility adds the dimension of an extended line of communication to the sustainment of multinational forces. The U.S. experience and expertise in this critical capability is proving key to the adaptations needed for supporting NATO forces in response to crisis management requirements.

RESERVE FORCES

NATO's new strategic concept recognizes that the changed geopolitical situation in Europe allows allied nations to place greater emphasis on mobilization and reserves. SHAPE continues its work on long-term planning guidelines on mobilizable forces, and most allies have expressed their intent to rely more heavily on reserve forces in the future. While active component strength levels throughout NATO are declining, overall reserve strength (excluding the U.S.) has remained static. This has resulted in a growing shift in the ratio of forces towards reserves.

Many NATO allies have fallen short in providing sufficient training for their reserve forces, although the situation varies by country. The U.K. Territorial Army, for example, trains to essentially the same standard as U.S. reserve forces. In contrast, the Belgians have not called up any reservists for training since 1990. Other nations fall somewhere in the middle, though virtually none approach British proficiency. A number of countries (e.g., Denmark, Italy and Norway) are considering improvement plans, but only the Spanish have implemented significant steps to upgrade the preparedness of their reserves.

A number of factors will constrain significant improvements in reserve readiness. Most allies have recently implemented, or plan to implement, reductions in their terms of conscript service. This means that fewer reservists will be fully trained when initially released from active duty. Fiscal, political and environmental pressures will continue to limit subsequent refresher training. The establishment of multi-national formations will place further demands on training proficiency. To offset these factors, greater investment in allied reserve forces is necessary to reflect the increasing prominence of reserves in the new NATO strategy.

INFORMATION PROGRAMS

The U.S. Mission to NATO and U.S. Embassies in NATO capitals conduct active public information programs in support of U.S. government political and security objectives, including those related to promoting equity in burdensharing. In addition to an extensive program of media and public relations, the U.S. Mission annually organizes or co-sponsors with local organizations in NATO countries several major international conferences for European security experts and others with a specialized interest in defense affairs. Additionally, the Mission sponsors a program, administered in capitals in Eastern, Central and Western Europe, whereby key opinion-leaders -- primarily journalists and political leaders -- visit NATO headquarters and U.S. military installations throughout Europe. U.S. military commands provide active support for this program, which has among its goals demonstrating the extent of the U.S. commitment. Finally, US NATO officers explain the U.S.-European defense relationship to hundreds of official and unofficial visitors who come to NATO headquarters annually under the auspices of the NATO Information and Press Service's Visitor Program.

CIVIL EMERGENCY PLANNING

The U.S. government has, in the past, considered NATO civil emergency planning (CEP) to be a major component of the NATO system of deterrence. In the new and continually evolving international situation, NATO CEP, which is a joint effort by the sixteen nations, will have an even more important role to play. Historically, the Senior Civil Emergency Planning Committee (SCEPC) has been charged by the North Atlantic Council to ensure civil support to the military in crisis or war, continuity of government, and protection of populations. To keep pace with and adapt itself to the new climate, and as directed by the Council, SCEPC and its planning boards and committees are reviewing work programs and refining taskings in light of NATO's new strategic concept. During the course of 1992, the Civil

Emergency Planning Directorate (CEPD) will develop updated Ministerial Guidance for approval by the Council in the Fall of 1992 that will contain guidance to the SCEPC for its work over the next two years.

Among the general tasks mandated in the previous Ministerial Guidance that remain valid are the basic obligations cited above, as well as the direction to carry out effective consultation and coordination of national crisis management arrangements, and effective planning for the utilization of civil resources if required in a crisis/war situation, and to share in the roles, risks and responsibilities arising out of membership in the Alliance.

In an era characterized by lower levels of forces, increased reliance on both transatlantic and European reinforcements, and the availability of fewer resources for defense, the important CEP support role of enhancing civil/military cooperation will take on particular significance. The planning for the dual use of civil resources, if required, would have an important burdensharing potential in a climate of declining financial resources for defense. Transportation, including aviation, ocean and inland shipping, telecommunications, medical assets, petroleum and other industrial resources, are examples of civil assets that could be utilized in an emergency. The requirement for harmonization and coordination between civil and military planning might be more easily accomplished through allied adoption of a graduated mobilization response capability similar to that developed in the U.S. To be most effective, such graduated mobilization response planning must be incorporated within that planning carried out in capitals and in NATO. To this end, the U.S. Federal Emergency Management Agency (FEMA) has invited allied officials who are active in civil emergency preparedness planning in their capitals to attend courses in mobilization concepts, policies and practices.

During the past year, the NATO CEP community has accomplished a number of important projects, such as the establishment of the Joint Medical Committee (JMC), which will coordinate and plan medical support activities in the NATO arena. In the present NATO effort to coordinate the provision of humanitarian assistance to the former Soviet Union (FSU), we expect the JMC to play a role in helping to coordinate the provision of humanitarian medical aid.

The SCEPC Joint Working Group (JWG) on inter-modal transport has reported on planning for the most effective movement of seaborne inter-modal cargo in NATO Europe in an emergency. The report notes that future risks will differ from past ones, but contends (rightly) that plans for coordination of transport movements in emergencies will be just as important in the new era.

At long last, after almost a decade of effort, the council has approved the establishment of the Southern Europe Transport Organization (SETO) as the NATO Civil Wartime Agency (NCWA) that would coordinate transportation in the Southern Region in times of emergency. The Italian government has expended much effort, time and money to prepare the SETO site, including communications facilities. In the meantime, the United Kingdom still contributes by planning to host, in a crisis situation, the eastern branches of the Central Supplies Agency (CSA) (handling food, agricultural and industrial supplies), the NATO Wartime Oil Organization (NAWOO), and the Defense Shipping Authority (DSA), as well as the Interallied Insurance Organization (IIO), concerned with wartime shipping insurance.

CRISIS MANAGEMENT

Last year, in its crisis management activities, NATO CEP played an active role in coordinating civil air transportation for civil defense and humanitarian purposes during Operations DESERT SHIELD/STORM. This year, CEP is playing a leading role in the NATO effort to provide humanitarian assistance to the former Soviet Union, an effort very much in the interest of peace and stability in Europe.

NATO Secretary General Woerner has requested the SCEPC and the CEPD to take charge of the planning effort to aid the former Soviet Union. As events unfold, the CEPD will respond by setting up a crisis management cell; there are plans to call up expert designees from the supply and transportation NCWAS as required to assist. The individuals called would be funded by NATO.

WARTIME HOST NATION SUPPORT

Wartime Host Nation Support (WHNS) consists of all civil and military assistance provided by a host nation to U.S. forces in time of tension or war. It allows the U.S. to meet the goals of SACEUR's Rapid Reinforcement Plan. U.S. deployment plans are not executable without WHNS. Host nations have agreed to provide a wide variety of services including transportation, facilities, construction, medical support, POL, and communications. Most WHNS agreements cost nothing in peacetime, but enable us to plan to avoid potential costs. WHNS helps to offset U.S. combat support and combat service support (CS/CSS) shortfalls, thus allowing U.S. combat forces to arrive early in the reinforcement flow. It is one of the key ways in which receiving nations contribute to the collective defense of NATO. Wartime Host Nation Support agreements are under careful review, and are being updated to take account of planned U.S. force reductions and the continuing need to maintain infrastructure support facilities, including those for command, control and communications, needed to facilitate rapid reinforcement.

Headquarters, U.S. European Command (USEUCOM) negotiates bilateral agreements to obtain WHNS required to support U.S. forces. WHNS planning in the Central and Northern regions of NATO is mature, and Southern Region planning is progressing well. WHNS agreements have been negotiated with most NATO nations, and specific U.S. requirements have been passed to these host nations. USEUCOM and components are heavily involved in site surveys, infrastructure improvements and the preparation of detailed WHNS plans.

In 1991, allied WHNS for DESERT SHIELD/STORM operations manifested itself in many ways. Belgium, Denmark, France, Germany, Greece, Italy, the Netherlands, Portugal, Spain, Turkey and the United Kingdom made especially notable contributions to the coalition effort, generally expediting U.S. operations in the Gulf by providing a wide range of support and support services from European installations and facilities.

Additionally, the U.S. made progress with its allies in negotiations on current and future WHNS requirements.

PACIFIC ALLIES

The U.S. government's success in negotiating new cost sharing arrangements with Japan and Korea demonstrates our allies' desire to support U.S. forward presence in the region. In an agreement signed in January 1991, the Japanese government pledged to assume roughly three-quarters of the costs of stationing U.S. forces in Japan (not including U.S. military and DOD civilian personnel costs). The United States and South Korea agreed in June 1991 that the ROK would assume one-third of the won-based costs of stationing United States forces in Korea by 1995. The ROK also signed a Wartime Host Nation Support agreement with the U.S. in November 1991.

SHARING ROLES AND MISSIONS

The United States continues to work closely with allies to identify responsibilities that can be assumed by host nations. A key way for the allies to do more is to accept greater responsibility for

combined operations, thereby reducing the requirement for that part of the U.S. infrastructure associated with the performance of these responsibilities. Korea, for example, has increased its responsibility in UN truce supervision, and Japan has agreed to provide the U.S. increased space in selected control centers to increase interoperability between our two nations' forces. In Japan, we will continue to work toward agreement on an Acquisition and Cross-Servicing Agreement, and expanded Refueling at Sea MOU, and other areas of contingency mutual support to further enhance defense cooperation. Having identified areas where our allies can participate more fully in their own defense, we will work closely with them to ensure they develop the force structure necessary to support an increased role.

JAPAN

Japan's willingness to assume a substantial and increasing share of the costs of stationing U.S. forces in Japan is a clear indication of the value Japan places on our security partnership. Because of Japan's cost sharing contributions, it is cost effective to station U.S. forces in Japan. In general terms, the United States pays only for the salaries of military and civilian personnel, operations and maintenance for U.S. forces, operations and maintenance for U.S. family housing, limited military construction costs, and expenses due to currency fluctuations. The Government of Japan has agreed to assume virtually all yen-based costs of maintaining our forces in Japan. Japan funds the Facilities Improvement Program (which pays for almost all military construction in Japan), leases for land used by U.S. forces, and provides for environmental compensation, utilities, and labor cost sharing. The Government of Japan also incurs indirect costs such as waived land use fees, foregone taxes, tolls, customs and the like.

The Special Measures Agreement for host nation support that Secretary Baker and former Foreign Minister Nakayama signed on January 14, 1991, increased Japan's already substantial contributions by adding utilities costs and all local labor costs over the next five years. By 1995, we estimate that Japan will be paying about 73% of the cost of stationing U.S. forces in Japan (less U.S. salaries).

In fulfilling its financial commitments, Japan's worldwide contributions to Operations DESERT SHIELD/STORM amounted to over \$13 billion dollars. Early in the crisis, Japan earmarked \$2 billion dollars for the front-line states and directed \$22 million dollars toward refugee assistance, and later pledged another \$38 million dollars to assist refugee related problems. Separately, Japan designated \$2 billion dollars for direct assistance to the multinational forces. In January 1991, the Government of Japan pledged an additional \$9 billion dollars to the multinational forces, almost all of which was provided to the U.S. in cash. In addition, a Japanese Maritime Self Defense Force mine sweeping flotilla worked closely with the U.S. Navy and other allied forces in the spring and summer of 1991 to clear mines from some of the most difficult areas of the Persian Gulf.

KOREA

The consultations on restructuring the ROK-US security relationship during Secretary of Defense Cheney's visit to Seoul in February 1990 began a process of transition for U.S. forces from a leading to a supporting role in peninsula defense matters. In the long term, U.S. forces will reduce their forward presence somewhat in peacetime while sustaining their ability to reinforce the ROK in wartime. ROK's assumption of a leading role in its own defense is proceeding smoothly. In 1991, a ROK Army Major General replaced a U.S. flag officer as senior member of the United Nations Command - Military Armistice Commission. The U.S. also began withdrawal of U.S. personnel from positions on the DMZ. In 1992, we will deactivate the combined (US/ROK) field army, and a ROK General will be assigned as the combined ground components commander.

U.S. cost sharing proposals have centered on Korea assuming an increasing share of the won-based costs associated with supporting U.S. forces. U.S. Forces in Korea (USFK) won-based costs are defined as total peninsula stationing expenses, excluding U.S. military and DOD civilian personnel costs. These costs may amount to approximately \$900 million dollars in 1995, of which, under the U.S.-ROK agreement, Korea will pay one-third. Two key new elements in U.S.-ROK cost sharing are ROK contributions to indigenous labor costs and an increase in military construction funding. We have also sought greater flexibility in administering the various cost sharing programs already in place.

The Department of Defense and the Department of State (through the Ambassador-at-Large for Burdensharing) have conducted extensive negotiations with the Republic of Korea aimed at expanding Korea's cost sharing contributions. In 1991, the ROK contributed \$150 million dollars, a 115% increase over the 1990 level of \$70 million dollars. The 1992 contribution is \$180 million dollars, up 20% increase over 1991. Recently, the ROK agreed to a \$220 million contribution for 1993, or 22% more than in 1992. Further increases are anticipated in subsequent years in order to reach one-third of won-based costs by 1995.

A bilateral cost sharing committee has been established to identify and resolve administrative problems hampering cost sharing execution. Additionally, the ROK has agreed to changes in how construction costs are shared, allowing greater flexibility in construction of essential war fighting projects needed by U.S. forces. Agreement has also been reached between the ROK and U.S. Governments to discuss a future (post-1995) cost sharing program based on an indexing formula to determine future ROK monetary contributions. Both governments see this method as useful to providing an orderly mechanism to facilitate out-year planning and negotiation. The details of these future implementation issues will be addressed in upcoming negotiations. In addition to the support outlined above, the ROK provides land at no cost for U.S. bases and training areas; 5,800 personnel to augment the U. S. Army forces on the peninsula; an increasing portion of the cost of maintaining the Joint Military Affairs Group in Korea; and the maintenance and storage costs of allied war reserve munitions.

In order to lower the visibility of American troops in Seoul, the ROK and U.S. agreed in 1988 to relocate all U.S. military units out of Seoul. The ROK promised to provide equal or better facilities at its expense for the relocated units. The relocation is scheduled to be completed by 1997. As the draw down of U. S. forces continues, the U. S. will consolidate remaining troops in three enclaves. These relocations will better align U. S. force dispositions with wartime missions; reduce the cost of forward-stationing through consolidation and return of economical facilities; return selected historically-important properties to the ROK, and reduce the visibility of U. S. forces forward deployed.

In addition to its cost sharing contributions, South Korea's support for DESERT SHIELD/STORM was timely and generous. The Republic of Korea was the first nation to respond with vital airlift and sealift support. Subsequent offers of assistance included over \$500 million dollars to the anti-Iraq coalition of which \$355 million dollars was pledged to support the U.S. military effort. Korea has converted pledged assistance that was not used, because of the war's early conclusion, to other forms of support. This final package includes \$104 million dollars of military equipment, materiel, services and infrastructure improvements identified by USFK. These contributions will be over and above the defense cost sharing program. The Republic of Korea also dispatched a medical support group consisting of some 154 personnel, and deployed five C-130 aircraft, including 156 ground support personnel to the Gulf. The cost of these two units is in addition to the \$500 million dollars in cash, transportation, and assistance-in-kind that was pledged by the ROK.

IMPROVED ROK CAPABILITIES

Planned reductions in U. S. forces stationed in Korea are made possible because of steady improvements in ROK defense capabilities. The ROK defense budget for 1991 was approximately \$10.8 billion dollars, roughly 4 percent of ROK GNP.

Under its current Force Improvement Program (FIP III), South Korea continues to devote about one-third of its defense budget to investment in force upgrades. Improvements in ROK defense capabilities have come in all areas of the South Korean military. New Chinook helicopters provide the South Korean Army with an improved medium-to-heavy lift capability. Tactical reconnaissance capabilities and tactical air defenses are improving with the acquisition of additional RF-4C and F4-D/E aircraft and the prospect of a proposed Korean fighter program. New army combat units are being organized and South Korea has begun adding some high technology radar and electronic warfare equipment to its inventories. Some of these improvements have also come from South Korea's own defense industry, such as its domestically-produced main battle tank.

PERSIAN GULF

The U.S. Government is discussing defense cooperation agreements with members of the Gulf Cooperation Council. The goal is to improve the ability of GCC countries to protect the security of a strategically vital region and to ensure U.S. access to the region should substantial U.S. forces ever have to be deployed there again in the future. Under these agreements, the United States will preposition supplies and equipment in the region for use in future crises.

Cost sharing is an element of these discussions. The recently-concluded agreement with Kuwait commits the Kuwaiti government to cover local costs of implementing our defense cooperative programs. The Department of Defense is already realizing benefits from this agreement in the form of Kuwaiti support for combined exercises.

APPENDIX A: ADDITIONAL BURDENSARING DATA

This appendix provides a detailed comparison of United States and allied statistics for the following burdensharing indicators: gross domestic product (GDP), population, per capita GDP, per capita defense spending, budget deficit/surplus as a percent of GDP, unemployment rates, and defense spending by resource category. Also included are tabular breakouts for all of the major burdensharing indicators discussed in Chapter II and this appendix. These breakouts show country data in two ways: (1) as a percent of the NATO, Japan and Republic of Korea total and (2) as a percent of the NATO total.

This material supplements and should be examined in conjunction with the "Burdensharing Measures and Performance" section of Chapter II.

GROSS DOMESTIC PRODUCT (GDP)

Charts A-1 and A-2 show the total GDP for the NATO nations, Japan, and the Republic of Korea along with each nation's share of the NATO, Japan, and Republic of Korea total. GDP reflects the total value of all goods and services produced within the national borders of a country in a given year and, thus, is a good indicator of the magnitude and rate of growth of a country's economy.

The magnitude of GDP varies greatly among the nations surveyed, ranging in 1990 from \$9 billion for Luxembourg to \$5.4 trillion for the United States. As a percentage of the NATO, Japan, and Republic of Korea total, the U.S. share amounted to 35 percent in 1990.

The U.S. share of GDP is substantially greater than that of any other nation. Japan, the second-ranking nation, accounts for 19 percent of the total and Germany, the third in rank, accounts for 10 percent.

Among the non-U.S. NATO nations, Germany, France, and Italy dominate the field, with the United Kingdom following close behind. Canada, Spain, the Netherlands, and Belgium are clustered somewhat further down the scale with shares in the 1 to 4 percent range, while the remaining six NATO nations (Denmark, Turkey, Norway, Greece, Portugal, and Luxembourg) account, individually, for less than 1 percent of the total and as a group, for only 3 percent.

An examination of real GDP growth provides some interesting insights into economic activity during the past two decades. Between 1971 and 1990, U.S. real GDP grew by 69 percent, compared with 66 percent for the non-U.S. NATO nations and an impressive 127 and 385 percent for Japan and the Republic of Korea, respectively. Denmark and Germany, whose per capita GDPs are among NATO's highest, managed real increases for 1971-90 of only 49 and 55 percent respectively, placing Denmark last, and

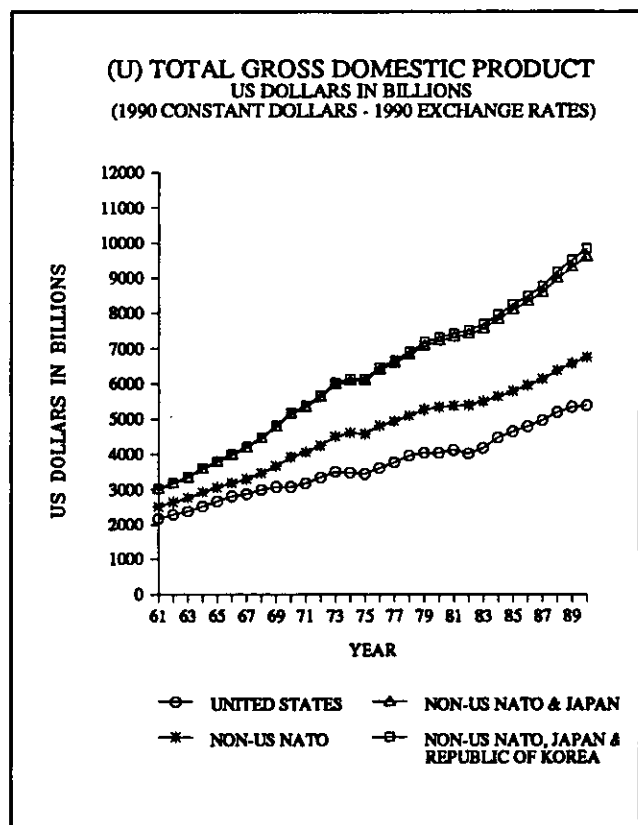
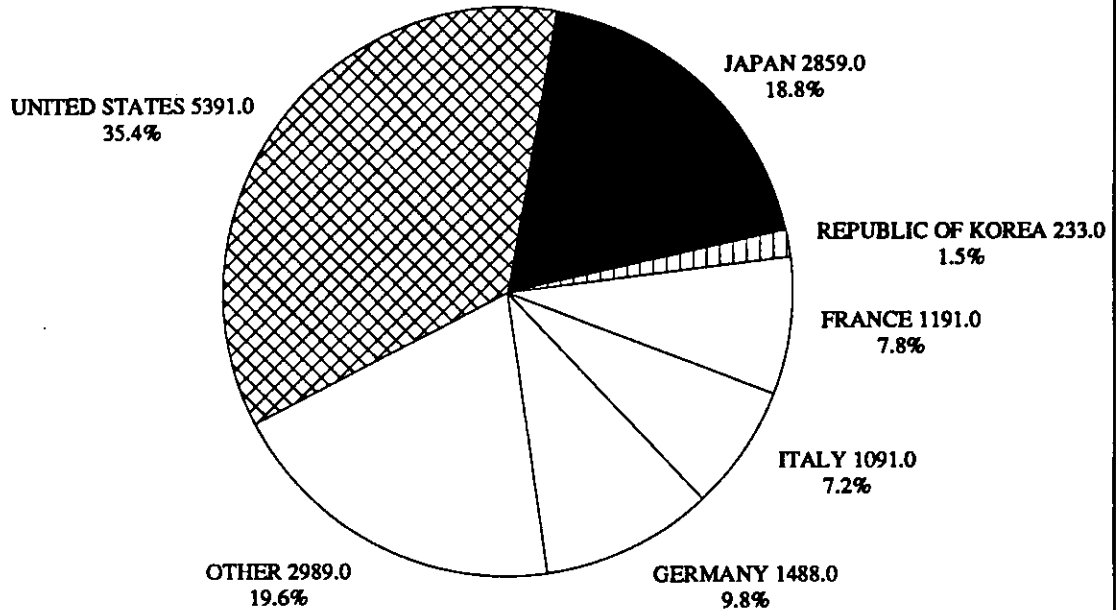


CHART A-1

GROSS DOMESTIC PRODUCT
 (1990 CONSTANT DOLLARS IN BILLIONS - 1990 EXCHANGE RATES)
 1990 - TOTAL NATO, JAPAN & REPUBLIC OF KOREA - 15242.0



2/28/92 CHT A-2

(U) % CHANGE IN GROSS DOMESTIC PRODUCT
 (1971 VS 1990)

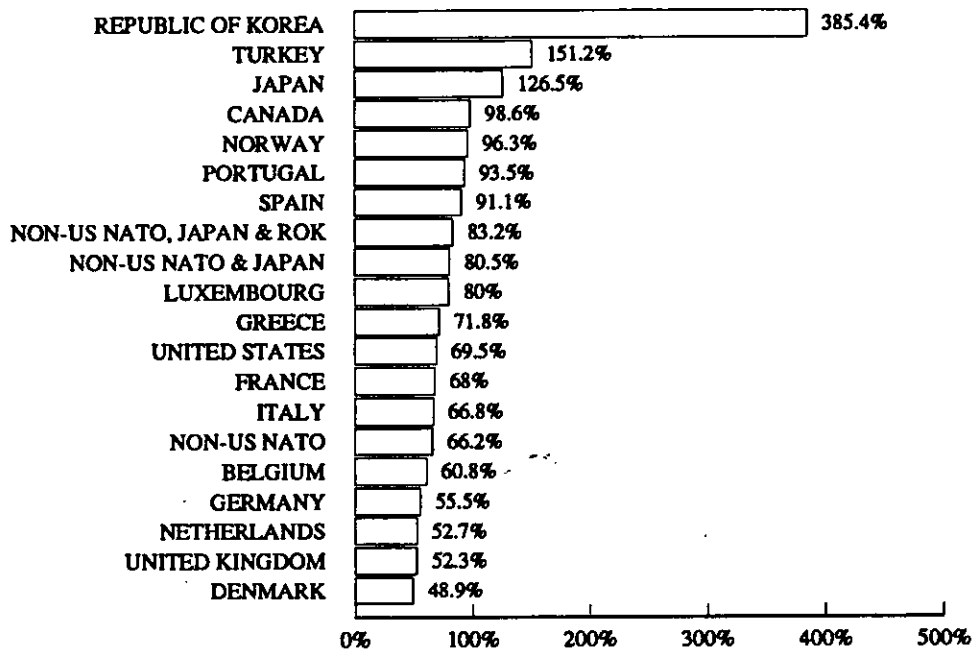


CHART A-2

Germany close to last in real GDP growth during this period.

POPULATION

Charts A-3 and A-4 compare the mid-year population size of the various nations and, thus, provide an indication of the human resources available to each. Population counts are relevant to defense burdensharing analyses for two reasons. On the one hand, they give a rough indication of the size of the pool from which a nation must draw its defense manpower. From this standpoint, a large and fast-growing population would be a positive sign. On the other hand, they indicate the extent to which defense may have to compete with other programs for fiscal resources. By this standard, a large and growing population could mean additional requirements for those government services and consumer goods that compete with defense for taxpayers' dollars and for industrial capacity.

Although the total percentage change in population growth between 1971 and 1990 varies from 2 percent for Denmark to 55 percent for Turkey, there have been no dramatic changes in national shares during this period. Germany (West Germany is used in our statistics for 1990) increased its population by 1.8 million people since 1988, which is largely due to the migration of people from eastern Europe (including a large number of intra-German immigrants). This largely accounts for the 4 percent increase in West German population between 1971 and 1990 before the unification of Germany on 3 October 1990. Previous statistics had shown negative growth in German population.

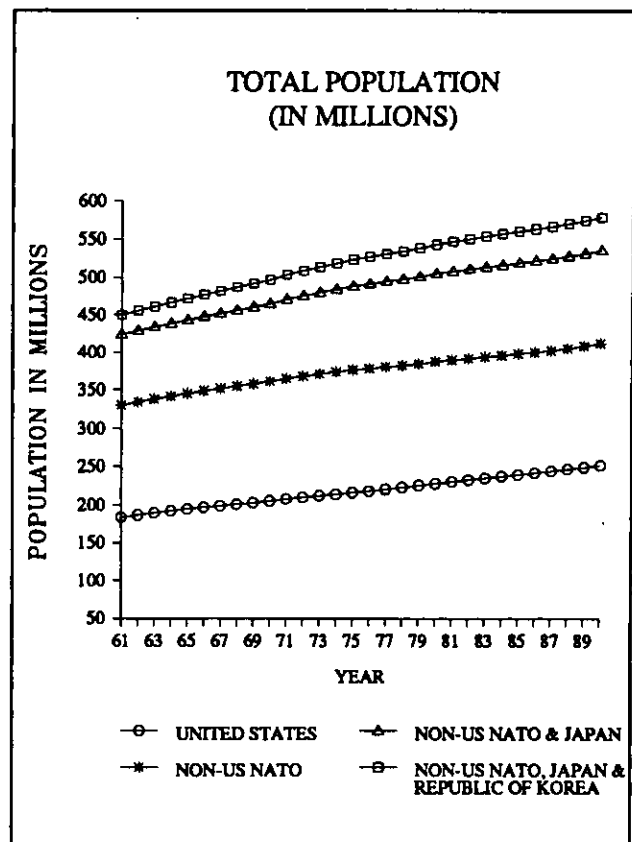


CHART A-3

PER CAPITA GROSS DOMESTIC PRODUCT

Per capita GDP (total GDP divided by total population) is a widely accepted measure of economic development and standard of living. This indicator recognizes that even a large and rapidly expanding GDP may not be able to generate national income commensurate with the needs of a nation with a large and rapidly growing population.

The five top-ranking countries for this indicator are Denmark, Norway, Germany, Japan, and Luxembourg respectively, with per capita GDPs in the \$25,000 to \$23,000 range, followed by Canada, the United States and France, with per capita GDPs ranging from \$22,000 to \$21,000. The United Kingdom, with a per capita GDP of \$16,900, ranks lowest of all the NATO Northern and Central Region nations. Spain, Portugal, Greece, the Republic of Korea, and Turkey occupy the bottom rungs of the per capita GDP ladder. Per capita national income among these nations ranges from \$12,600 for Spain to \$1,900 for Turkey.

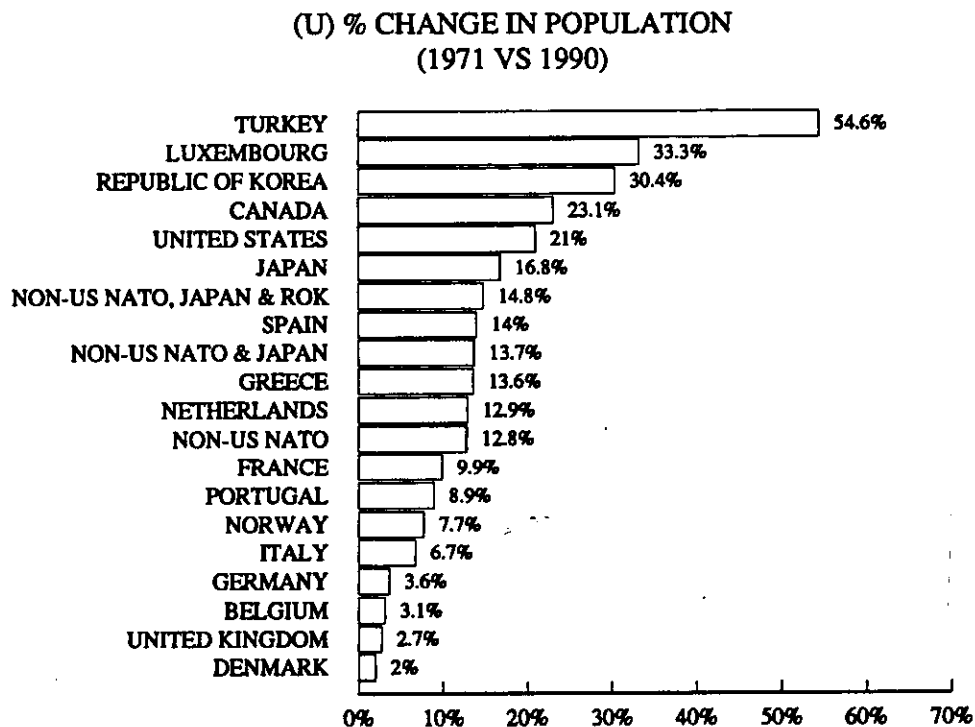
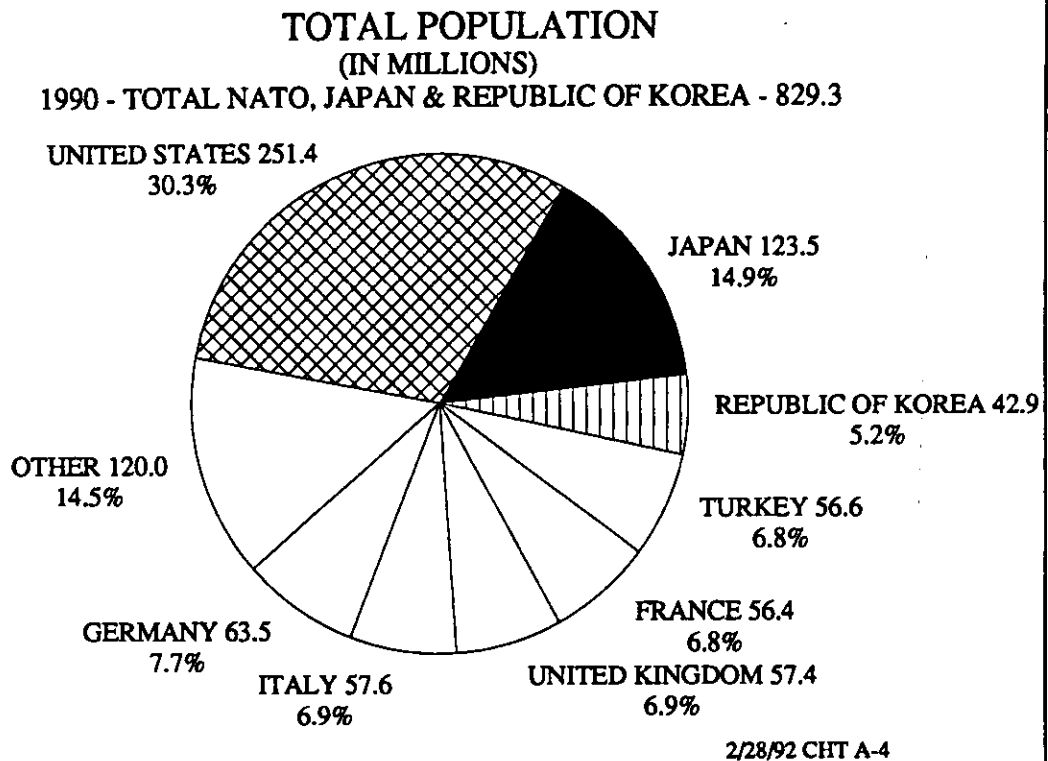


CHART A-4

Between 1971 and 1990, the greatest increases in per capita GDP were achieved by Norway, Japan, and the Republic of Korea (81, 94 and 273 percent, respectively). The Netherlands, the United States, and Denmark, with increases of 35, 40, and 44 percent, respectively, showed the smallest improvement.

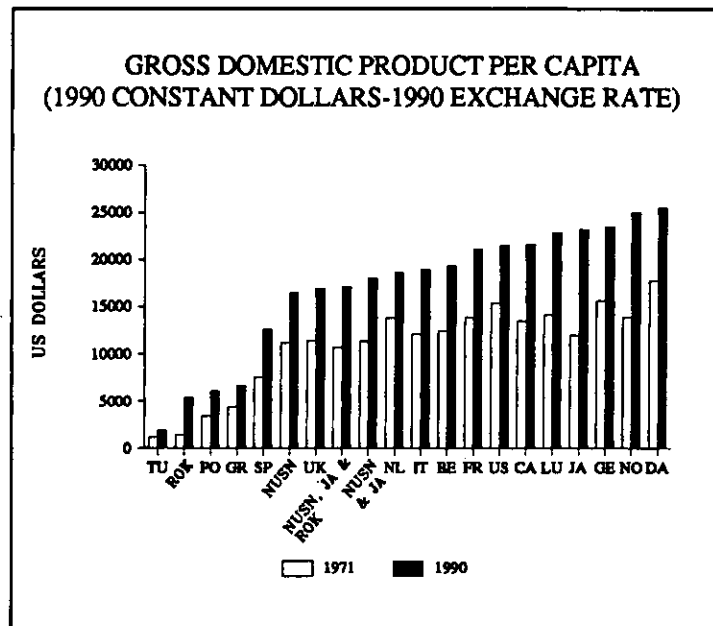


CHART A-5

TOTAL DEFENSE SPENDING PER CAPITA

This indicator (Chart A-6) relates a nation's defense spending to its population size. Although widely used, the measure is difficult to interpret and subject to misunderstanding. Whereas total population may be a good basis for comparing manpower contributions, it is not clear why it should be a reasonable basis for determining whether nations' total defense spending contributions are equitable. That is, a nation with a large population may not necessarily have more funds to devote to defense than does a country with a smaller population. For example, although Turkey's and Norway's GDPs, are about the same, Turkey's total defense spending is 56 percent greater than Norway. Yet, because Turkey's population is roughly 13 times larger than Norway's, the per capita defense spending measure (which shows Norway second highest and Turkey last among all NATO nations, Japan, and the Republic of Korea) could lead one to conclude, erroneously, that Turkey is making a substantially smaller contribution than its Northern ally.

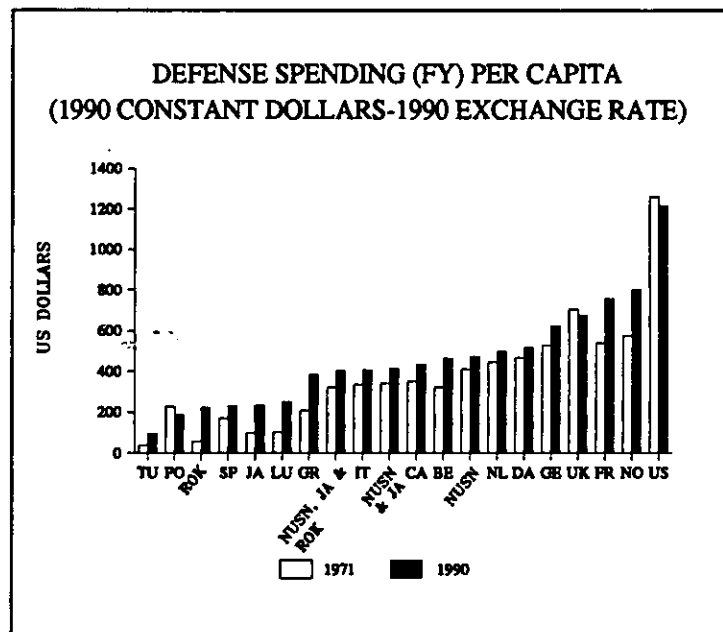


CHART A-6

BUDGET DEFICIT/SURPLUS AS A PERCENT OF GDP

Budget deficits worsened or budget surpluses became deficits in recent years for most NATO countries. These deficits influenced government decisions to curb spending in general, and more specifically have added further impetus for some governments to decrease defense spending. Budget deficit or surplus is, therefore, an important additional indicator of a country's economic condition.

Comparing deficits among countries is commonly done using general government budget deficit/surplus as a percent of GDP. General government (which includes central, local, and other governmental jurisdictions) budget deficit or surplus is equal to revenues minus expenditures and lending less any repayments. Including local and other governmental jurisdictions helps eliminate comparability problems stemming from different approaches among countries on funding of government activities (e.g., a given activity that is funded by the central government in one country might be funded by the local government in another country). These data are displayed in Chart A-7.

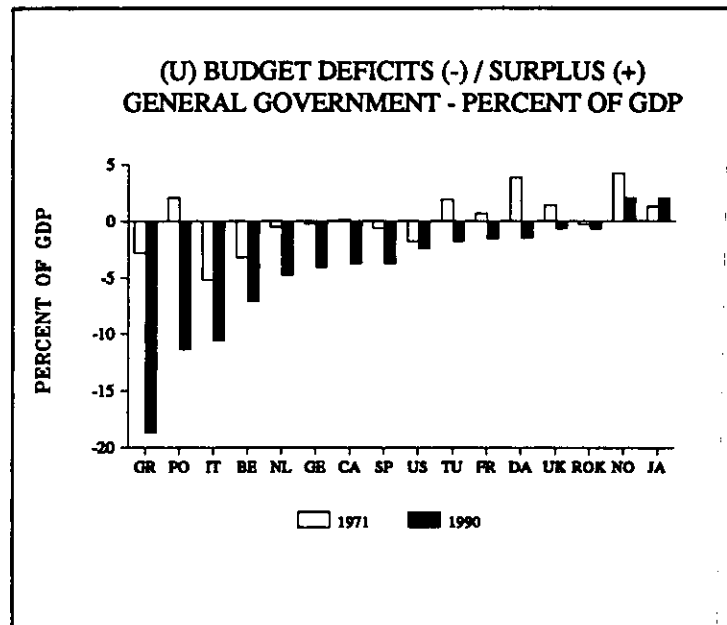


CHART A-7

In 1990, Greece, Portugal, and Italy had the largest general government deficits as a percent of GDP with 18.7 percent, 11.4 percent, and 10.6 percent respectively. The United States showed a deficit as a percent of GDP of 2.4 percent, based on a general government deficit estimated at \$131 billion for 1990. Norway and Japan are the only countries in this report that showed a surplus.

UNEMPLOYMENT RATES (PERCENT OF LABOR FORCE)

Chart A-8 displays unemployed persons as a percent of labor force, commonly known as the unemployment rate. "Unemployed refers to all persons of working age who, in a specified period, are without work, are available for work, and are seeking work for pay or profit.



CHART A-8

The total labor force consists of the unemployed, civilian employment, and the armed forces." ¹

Unemployment rates vary widely between countries. Luxembourg, Japan, and the Republic of Korea show the lowest unemployment in 1990 with rates of one, two, and three percent, respectively. Turkey and Spain have the highest unemployment with 1990 unemployment rates of 13 and 16 percent, respectively. The remaining countries can be broken into two groups: those countries with unemployment rates from about 4 to 7 percent (Portugal, Norway, the United States, the United Kingdom, and Germany) and countries with rates on the order of 8 to 11 percent (Belgium, Canada, Denmark, France, Greece, Italy, and the Netherlands).

Trends across time show a significant increase in rates of unemployment for most countries from the 1970s through the early 1980s. Unemployment decreased slightly during the latter part of the 1980s. Current indicators show unemployment rates rising among most developed countries.

TOTAL DEFENSE SPENDING BY RESOURCE CATEGORY ²

Charts A-9 through A-12 show how the United States and its allies allocate their defense spending among major resource categories, such as personnel, procurement of major equipment and ammunition, and research and development (RDT&E). The data represent actual or estimated outlays, adjusted to conform to a definition agreed to by NATO on what is to be included in each resource category.

During the mid-1970s through the mid-1980s, most of the allies allocated a growing share of their defense spending to capital expenditures, thereby reversing a downward pattern that existed during the late 1960s and early 1970s. Since the mid-1980s, however, the trend indicates a gradual decline. The share allocated to capital by the non-U.S. NATO nations as a group declined from 29 percent in 1967 to 23 percent in 1971, and then increased to between 31 and 33 percent during the early 1980s (Chart A-9). A similar pattern is exhibited for procurement for major equipment and ammunition--the largest component of capital expenditures. The U.S. capital percentage fell from around 42 percent in 1967 to 30 percent in 1975, reflecting in part the Southeast Asia phasedown. This share remained in the neighborhood of 30 percent during 1976-78 and then moved upward to 40 percent in 1990.

The non-U.S. NATO personnel percentage (which includes military and civilian pay and allowances and military pensions) increased from around 47 percent in 1967 to 55 percent in 1974, declined to 45 percent in 1985, and then increased modestly to 50 percent in 1990 (Chart A-10). The personnel share of U.S. defense spending climbed from 44 percent in 1967 to 50 percent in 1973, remained in the range of 49 to 52 percent during 1974-78, then declined to between 36 and 38 percent between 1985 and 1990.

The allied percentage allocated to "other operating" expenditures (which encompasses all operations and maintenance expenditures less military and civilian pay allowances) dropped from 25 percent of total defense spending in 1967 to 21 percent in 1973. Since 1974, the share has remained between 20 and 23 percent. U.S. expenditures in this category averaged 17 percent of total spending between 1967 and 1974, and then gradually increased to the 21-25 percent range during 1980-90.

¹ Source: OECD, Main Economic Indicators, January 1988.

² This section addresses trends through 1990. Information available on allied spending by resource category for 1991 and beyond is not sufficiently refined to enable us to provide firm figures for those years. The figures discussed in this section exclude France, Greece, Japan, Luxembourg, the Republic of Korea, Spain, and Turkey, for which comparable data are not readily available for all years.

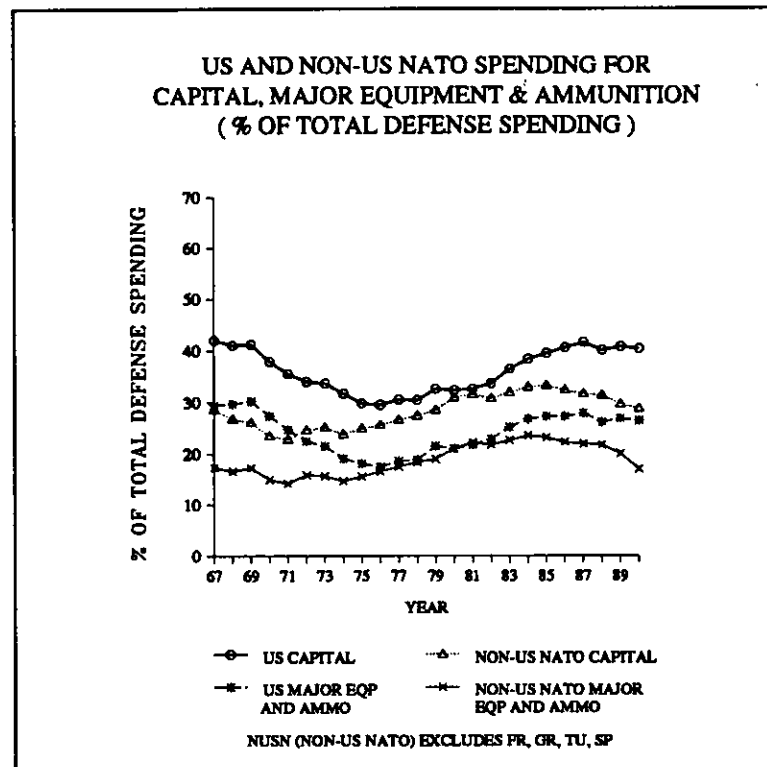


CHART A-9

Charts A-11 and A-12 compare the percentage of 1990 defense outlays allocated to each resource category by the United States, selected allies, and all of the allies combined (excluding, as indicated earlier, France, Greece, Japan, Luxembourg, the Republic of Korea, Spain, and Turkey).

As Chart A-11 shows, the United States leads all of the NATO nations in the percentage of total defense spending devoted to capital expenditures. The United States allocation of 40 percent is followed by 38 percent for the United Kingdom; 36 percent for Norway; 27 percent for Germany; 26 percent for Canada and the Netherlands; 23 percent for Italy; 20 percent for Denmark; 14 percent for Portugal; and 13 percent for Belgium.

Germany's percentage for major equipment and ammunition (15 percent) is relatively low vis-a-vis the percentage of the United States, the United Kingdom and several other nations. This appears to be attributable in part to Germany's relatively greater emphasis on labor-intensive ground forces and its relatively modest emphasis on capital-intensive naval forces.

British spending for RDT&E has, for most years since the early 1950's, been the highest or second highest in NATO as a percentage of total defense spending. In 1990 the United Kingdom spent 9 percent of its defense spending on RDT&E, second only to the United States (12 percent). The third highest ranking country in percentage of defense spending dedicated to RDT&E is Germany at 5 percent.

The share of total spending allocated to personnel ranges from 68 and 72 percent for Belgium and Portugal respectively to 37 percent for the United States. In addition to the United States, the United Kingdom and Norway each allocate less than half of their budgets to this category (41 and 43 respectively.) The weighted average for all of the non-U.S. NATO nations (excluding France, Greece, Luxembourg, Spain, and Turkey) is 50 percent.

**US AND NON-US NATO SPENDING FOR
PERSONNEL & OTHER OPERATING EXPENDITURES
(% OF TOTAL DEFENSE SPENDING)**

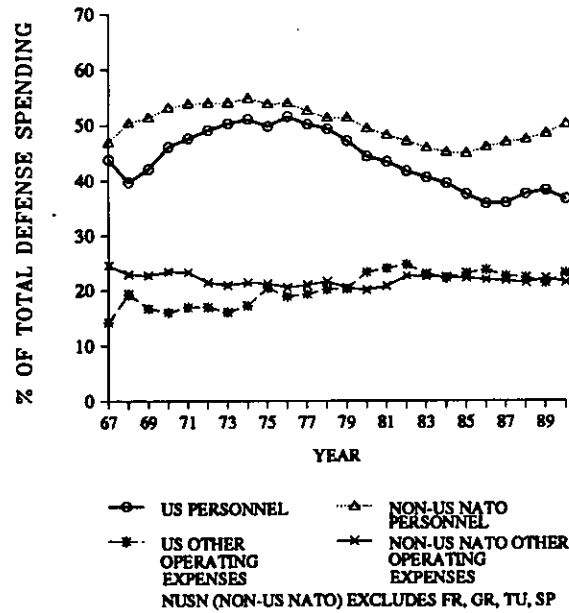


CHART A-10

**PERCENT OF TOTAL DEFENSE SPENDING
ALLOCATED TO CAPITAL EXPENDITURES
1990**

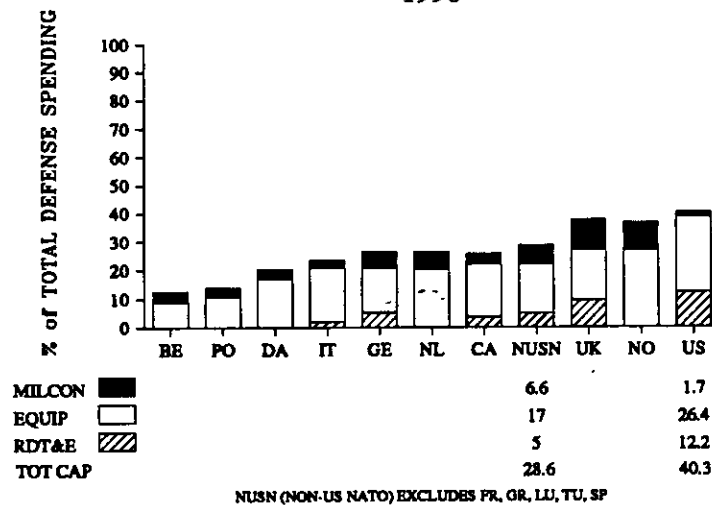


CHART A-11

PERCENT OF TOTAL DEFENSE SPENDING ALLOCATED TO OPERATING EXPENDITURES 1990

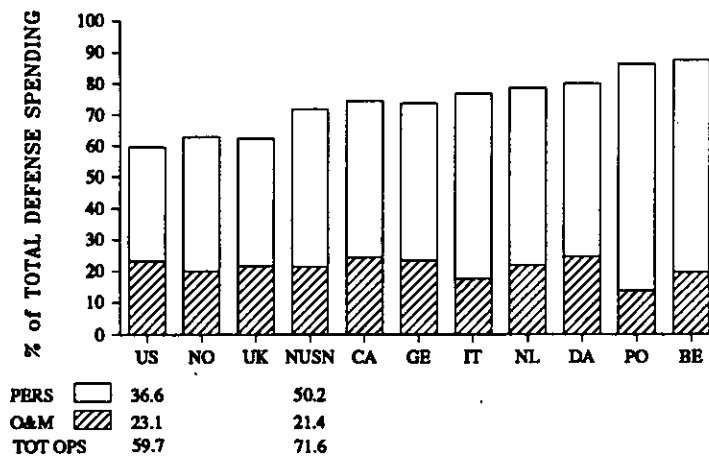


CHART A-12

Table A-13

Total Defense Spending (FY)
(1990 Constant Dollars in Billions – 1990 Exchange Rates)
(Including Republic of Korea)

	1971				1990				Quantity Percent Change 71 vs 90
	\$	% of NATO & Japan & ROK Total	% of NATO Total	Rank	\$	% of NATO & Japan & ROK Total	% of NATO Total	Rank	
Belgium	3.13	0.7%	0.8%	10	4.64	0.9%	0.9%	12	48.2%
Canada	7.60	1.8%	1.8%	7	11.55	2.1%	2.3%	7	52.0%
Denmark	2.32	0.5%	0.6%	11	2.65	0.5%	0.5%	15	14.2%
France	27.62	6.5%	6.7%	4	42.67	7.9%	8.5%	2	54.5%
Germany (a)	32.39	7.6%	7.9%	3	39.73	7.4%	8.0%	3	22.7%
Greece	1.84	0.4%	0.4%	15	3.86	0.7%	0.8%	13	109.8%
Italy	18.10	4.3%	4.4%	5	23.39	4.4%	4.7%	6	29.2%
Luxembourg	0.04	0.0%	0.0%	17	0.10	0.0%	0.0%	17	150.0%
Netherlands	5.86	1.4%	1.4%	8	7.42	1.4%	1.5%	10	26.6%
Norway	2.24	0.5%	0.5%	12	3.40	0.6%	0.7%	14	51.8%
Portugal	2.05	0.5%	0.5%	13	1.88	0.3%	0.4%	16	-8.3%
Spain	5.85	1.4%	1.4%	9	9.05	1.7%	1.8%	9	54.7%
Turkey	1.44	0.3%	0.3%	16	5.31	1.0%	1.1%	11	268.8%
United Kingdom	39.24	9.3%	9.5%	2	38.75	7.2%	7.8%	4	-1.2%
United States (b)	261.90	61.8%	63.6%	1	304.71	56.7%	61.1%	1	16.3%
Japan	10.44	2.5%		6	28.72	5.3%		5	175.1%
Republic of Korea	1.88	0.4%		14	9.69	1.8%		8	415.4%
Non-U.S. NATO	149.72	35.3%	36.4%		194.40	36.2%	38.9%		29.8%
Non-U.S. NATO & Japan	160.16	37.8%			223.12	41.5%			39.3%
Non-U.S. NATO & Japan & Republic of Korea	162.04	38.2%			232.81	43.3%			43.7%
Total NATO	411.62	97.1%	100.0%		499.11	92.9%	100.0%		21.3%
Total NATO & Japan	422.06	99.6%			527.83	98.2%			25.1%
Total NATO & Japan & Republic of Korea	423.94	100.0%			537.52	100.0%			26.8%

(a) Excludes 1990 costs for the integration of the former East German military.

(b) Excludes the receipts/costs of Operation Desert Shield/Storm. Including these receipts/costs result in 1990 defense outlays of \$306.17 billion.

Table A-14

Total Defense Spending (FY) as a Percent of GDP

(Including Republic of Korea)

	1971			1990			Total Percent Change 71 vs 90
	Percent	% of Highest Nation	Rank	Percent	% of Highest Nation	Rank	
Belgium	2.9	39.2%	11	2.4	41.4%	11	-17.2%
Canada	2.2	29.7%	14	2.0	34.5%	13	-9.1%
Denmark	2.5	33.8%	12	2.0	34.5%	13	-20.0%
France	3.9	52.7%	6	3.6	62.1%	6	-7.7%
Germany (a)	3.4	45.9%	8	2.7	46.6%	9	-20.6%
Greece	4.7	63.5%	5	5.8	100.0%	1	23.4%
Italy	2.3	31.1%	13	2.1	36.2%	12	-8.7%
Luxembourg	0.8	10.8%	16	1.1	19.0%	16	37.5%
Netherlands	3.2	43.2%	10	2.7	46.6%	9	-15.6%
Norway	3.4	45.9%	8	3.2	55.2%	7	-5.9%
Portugal	7.4	100.0%	1	3.1	53.4%	8	-58.1%
Spain	2.2	29.7%	14	1.8	31.0%	15	-18.2%
Turkey	4.8	64.9%	4	4.9	84.5%	3	2.1%
United Kingdom	5.1	68.9%	3	4.0	69.0%	5	-21.6%
United States (b)	7.1	95.9%	2	5.7	98.3%	2	-19.7%
Japan	0.8	10.8%	16	1.0	17.2%	17	25.0%
Republic of Korea	3.8	51.4%	7	4.2	72.4%	4	10.5%
Non-U.S. NATO	3.5	47.3%		2.9	50.0%		-17.1%
Non-U.S. NATO & Japan	2.9	39.2%		2.3	39.7%		-20.7%
Non-U.S. NATO & Japan & Republic of Korea	2.9	39.2%		2.4	41.4%		-17.2%
Total NATO	5.4	73.0%		4.1	70.7%		-24.1%
Total NATO & Japan	5.0	67.6%		3.5	60.3%		-30.0%
Total NATO & Japan & Republic of Korea	5.0	67.6%		3.5	60.3%		-30.0%

(a) Excludes 1990 costs for the integration of the former East German military.

(b) Excludes the receipts/costs of Operation Desert Shield/Storm.

Table A-15

Total Active Duty Military and Civilian Manpower
(Thousands)
(Including Republic of Korea)

	1971				1990				
	% of NATO & Japan & ROK		% of NATO Total		% of NATO & Japan & ROK		% of NATO Total		Quantity Percent Change 71 vs 90
	Quantity	Total	Total	Rank	Quantity	Total	Total	Rank	
Belgium	114.3	1.2%	1.4%	14	113.3	1.3%	1.5%	13	-0.9%
Canada	127.8	1.4%	1.5%	13	126.3	1.5%	1.7%	12	-1.2%
Denmark	53.6	0.6%	0.6%	15	40.7	0.5%	0.5%	16	-24.1%
France	705.3	7.6%	8.4%	3	679.2	7.9%	8.9%	5	-3.7%
Germany (a)	645.3	6.9%	7.7%	5	682.7	8.0%	9.0%	4	5.8%
Greece	202.7	2.2%	2.4%	11	228.9	2.7%	3.0%	10	12.9%
Italy	600.5	6.5%	7.1%	7	547.5	6.4%	7.2%	6	-8.8%
Luxembourg	1.2	0.0%	0.0%	17	1.4	0.0%	0.0%	17	16.7%
Netherlands	141.9	1.5%	1.7%	12	128.1	1.5%	1.7%	11	-9.7%
Norway	47.0	0.5%	0.6%	16	63.1	0.7%	0.8%	15	34.3%
Portugal	249.4	2.7%	3.0%	10	101.0	1.2%	1.3%	14	-59.5%
Spain	318.9	3.4%	3.8%	8	307.6	3.6%	4.0%	8	-3.5%
Turkey	650.5	7.0%	7.7%	4	826.8	9.7%	10.9%	2	27.1%
United Kingdom	719.0	7.7%	8.6%	2	479.4	5.6%	6.3%	7	-33.3%
United States	3831.7	41.2%	45.6%	1	3275.0	38.3%	43.1%	1	-14.5%
Japan	258.9	2.8%		9	271.7	3.2%		9	4.9%
Republic of Korea	622.4	6.7%		6	683.0	8.0%		3	9.7%
Non-U.S. NATO	4577.4	49.3%	54.4%		4326.0	50.6%	56.9%		-5.5%
Non-U.S. NATO & Japan	4836.3	52.1%			4597.7	53.7%			-4.9%
Non-U.S. NATO & Japan & Republic of Korea	5458.7	58.8%			5280.7	61.7%			-3.3%
Total NATO	8409.1	90.5%	100.0%		7601.0	88.8%	100.0%		-9.6%
Total NATO & Japan	8668.0	93.3%			7872.7	92.0%			-9.2%
Total NATO & Japan & Republic of Korea	9290.4	100.0%			8555.7	100.0%			-7.9%

(a) Excludes former East German defense personnel

Table A-16

Total Active Duty Military Manpower
(Thousands)
(Including Republic of Korea)

	1971				1990				
	% of NATO & Japan & ROK		% of NATO		% of NATO & Japan & ROK		% of NATO		Quantity Percent Change 71 vs 90
	Quantity	Total	Total	Rank	Quantity	Total	Total	Rank	
Belgium	106.8	1.5%	1.7%	13	106.3	1.6%	1.9%	11	-0.5%
Canada	86.9	1.2%	1.4%	14	87.1	1.3%	1.5%	14	0.2%
Denmark	44.5	0.6%	0.7%	15	31.0	0.5%	0.5%	16	-30.3%
France	569.3	7.9%	8.9%	4	549.6	8.3%	9.6%	4	-3.5%
Germany (a)	472.0	6.5%	7.4%	6	503.2	7.6%	8.8%	5	6.6%
Greece	178.7	2.5%	2.8%	11	201.4	3.0%	3.5%	10	12.7%
Italy	526.0	7.3%	8.3%	5	493.1	7.4%	8.6%	6	-6.3%
Luxembourg	1.1	0.0%	0.0%	17	1.3	0.0%	0.0%	17	18.2%
Netherlands	113.0	1.6%	1.8%	12	103.7	1.6%	1.8%	12	-8.2%
Norway	36.3	0.5%	0.6%	16	50.6	0.8%	0.9%	15	39.4%
Portugal	244.2	3.4%	3.8%	9	87.5	1.3%	1.5%	13	-64.2%
Spain	282.2	3.9%	4.4%	8	262.7	4.0%	4.6%	8	-6.9%
Turkey	614.5	8.5%	9.6%	2	768.9	11.6%	13.4%	2	25.1%
United Kingdom	384.0	5.3%	6.0%	7	308.3	4.6%	5.4%	7	-19.7%
United States	2714.0	37.7%	42.6%	1	2181.0	32.9%	38.0%	1	-19.6%
Japan	234.3	3.3%		10	246.5	3.7%		9	5.2%
Republic of Korea	600.0	8.3%		3	655.0	9.9%		3	9.2%
Non-U.S. NATO	3659.5	50.8%	57.4%		3554.7	53.6%	62.0%		-2.9%
Non-U.S. NATO & Japan	3893.8	54.0%			3801.2	57.3%			-2.4%
Non-U.S. NATO & Japan & Republic of Korea	4493.8	62.3%			4456.2	67.1%			-0.8%
Total NATO	6373.5	88.4%	100.0%		5735.7	86.4%	100.0%		-10.0%
Total NATO & Japan	6607.8	91.7%			5982.2	90.1%			-9.5%
Total NATO & Japan & Republic of Korea	7207.8	100.0%			6637.2	100.0%			-7.9%

(a) Excludes former East German defense personnel

Table A-17

**Total Active Duty Military and Civilian Manpower
and Committed Reserves (Thousands)
(Including Republic of Korea)**

1990			
	% of NATO & Japan & ROK Total	% of NATO Total	Rank
Belgium	1.6%	1.8%	13
Canada	1.2%	1.3%	15
Denmark	0.8%	0.9%	16
France	9.2%	9.9%	3
Germany (a)	11.7%	12.6%	2
Greece	3.6%	3.9%	8
Italy	5.6%	6.0%	5
Luxembourg	0.0%	0.0%	17
Netherlands	2.1%	2.2%	11
Norway	1.9%	2.0%	12
Portugal	1.2%	1.3%	14
Spain	3.1%	3.4%	9
Turkey	8.9%	9.6%	4
United Kingdom	4.8%	5.2%	7
United States	36.9%	39.8%	1
Japan	2.2%		10
Republic of Korea	5.1%		6
Non-U.S. NATO	55.8%	60.2%	
Non-U.S. NATO & Japan	58.0%		
Non-U.S. NATO & Japan & Republic of Korea	63.1%		
Total NATO	92.7%	100.0%	
Total NATO & Japan	94.9%		
Total NATO & Japan & Republic of Korea	100.0%		

(a) Excludes former East German defense personnel.

Table A-18

**Total Active Duty Military and Civilian Manpower
As a Percent of Total Population
(Including Republic of Korea)**

	1971			1990			Total Percent Change 71 vs 90
	Percent	% of Highest Nation	Rank	Percent	% of Highest Nation	Rank	
Belgium	1.18	42.4%	9	1.13	49.6%	7	-4.2%
Canada	0.59	21.2%	15	0.47	20.6%	15	-20.3%
Denmark	1.08	38.8%	11	0.79	34.6%	13	-26.9%
France	1.38	49.6%	6	1.20	52.6%	6	-13.0%
Germany (a)	1.05	37.8%	13	1.08	47.4%	8	2.9%
Greece	2.30	82.7%	2	2.28	100.0%	1	-0.9%
Italy	1.11	39.9%	10	0.95	41.7%	10	-14.4%
Luxembourg	0.35	12.6%	16	0.37	16.2%	16	5.7%
Netherlands	1.08	38.8%	11	0.86	37.7%	11	-20.4%
Norway	1.20	43.2%	8	1.49	65.4%	3	24.2%
Portugal	2.78	100.0%	1	1.03	45.2%	9	-62.9%
Spain	0.93	33.5%	14	0.79	34.6%	13	-15.1%
Turkey	1.78	64.0%	5	1.46	64.0%	4	-18.0%
United Kingdom	1.29	46.4%	7	0.84	36.8%	12	-34.9%
United States	1.85	66.5%	4	1.30	57.0%	5	-29.7%
Japan	0.24	8.6%	17	0.22	9.6%	17	-8.3%
Republic of Korea	1.89	68.0%	3	1.59	69.7%	2	-15.9%
Non-U.S. NATO	1.25	45.0%		1.05	46.1%		-16.0%
Non-U.S. NATO & Japan	1.03	37.1%		0.86	37.7%		-16.5%
Non-U.S. NATO & Japan & Republic of Korea	1.08	38.8%		0.91	39.9%		-15.7%
Total NATO	1.47	52.9%		1.15	50.4%		-21.8%
Total NATO & Japan	1.28	46.0%		1.00	43.9%		-21.9%
Total NATO & Japan & Republic of Korea	1.31	47.1%		1.03	45.2%		-21.4%

(a) Excludes former East German defense personnel.

Table A-19

**Total Active Duty Military Manpower
As a Percent of Total Population
(Including Republic of Korea)**

	1971			1990			Total Percent Change 71 vs 90
	Percent	% of Highest Nation	Rank	Percent	% of Highest Nation	Rank	
Belgium	1.10	40.4%	7	1.06	53.0%	5	-3.6%
Canada	0.40	14.7%	15	0.33	16.5%	15	-17.5%
Denmark	0.90	33.1%	10	0.60	30.0%	13	-33.3%
France	1.11	40.8%	6	0.97	48.5%	6	-12.6%
Germany (a)	0.77	28.3%	13	0.79	39.5%	10	2.6%
Greece	2.02	74.3%	2	2.00	100.0%	1	-1.0%
Italy	0.97	35.7%	8	0.86	43.0%	9	-11.3%
Luxembourg	0.31	11.4%	16	0.33	16.5%	15	6.5%
Netherlands	0.86	31.6%	11	0.69	34.5%	11	-19.8%
Norway	0.93	34.2%	9	1.19	59.5%	4	28.0%
Portugal	2.72	100.0%	1	0.89	44.5%	7	-67.3%
Spain	0.83	30.5%	12	0.67	33.5%	12	-19.3%
Turkey	1.68	61.8%	4	1.36	68.0%	3	-19.0%
United Kingdom	0.69	25.4%	14	0.54	27.0%	14	-21.7%
United States	1.31	48.2%	5	0.87	43.5%	8	-33.6%
Japan	0.22	8.1%	17	0.20	10.0%	17	-9.1%
Republic of Korea	1.82	66.9%	3	1.53	76.5%	2	-15.9%
Non-U.S. NATO	1.00	36.8%		0.86	43.0%		-14.0%
Non-U.S. NATO & Japan	0.83	30.5%		0.71	35.5%		-14.5%
Non-U.S. NATO & Japan & Republic of Korea	0.89	32.7%		0.77	38.5%		-13.5%
Total NATO	1.11	40.8%		0.86	43.0%		-22.5%
Total NATO & Japan	0.97	35.7%		0.76	38.0%		-21.6%
Total NATO & Japan & Republic of Korea	1.01	37.1%		0.80	40.0%		-20.8%

(a) Excludes former East German defense personnel.

Table A-20

**Total Active Duty Military and Civilian Manpower
and Committed Reserves As a Percent of Total Population
(Including Republic of Korea)**

1990		
	% of Highest Nation	Rank
Belgium	37.1%	4
Canada	10.2%	15
Denmark	36.7%	5
France	36.6%	6
Germany (a)	41.4%	3
Greece	81.4%	2
Italy	21.8%	12
Luxembourg	6.2%	16
Netherlands	30.9%	9
Norway	100.0%	1
Portugal	28.4%	10
Spain	18.1%	14
Turkey	35.4%	7
United Kingdom	18.8%	13
United States	33.1%	8
Japan	4.0%	17
Republic of Korea	26.7%	11
Non-U.S. NATO	30.5%	
Non-U.S. NATO & Japan	24.3%	
Non-U.S. NATO & Japan & Republic of Korea	24.5%	
Total NATO	31.4%	
Total NATO & Japan	27.2%	
Total NATO & Japan & Republic of Korea	27.2%	

(a) Excludes former East German defense personnel

Table A-21

Division Equivalent Firepower (DEF)

(Including Republic of Korea)

1991			
	% of NATO & Japan & Korea Total	% of NATO Total	Rank
Belgium	1.2%	1.4%	13
Canada	0.7%	0.9%	15
Denmark	1.3%	1.5%	12
France	4.8%	5.5%	5
Germany	10.3%	11.8%	2
Greece	4.3%	5.0%	6
Italy	4.2%	4.9%	7
Luxembourg	0.0%	0.0%	
Netherlands	3.1%	3.5%	10
Norway	1.1%	1.3%	14
Portugal	0.6%	0.7%	16
Spain	2.8%	3.2%	11
Turkey	8.4%	9.7%	4
United Kingdom	3.9%	4.5%	8
United States	40.3%	46.3%	1
Japan	3.8%		9
Republic of Korea	9.2%		3
Non-U.S. NATO	46.7%	53.7%	
Non-U.S. NATO & Japan	50.5%		
Non-U.S. NATO & Japan & Republic of Korea	59.7%		
Total NATO	87.0%	100.0%	
Total NATO & Japan	90.8%		
Total NATO & Japan & Republic of Korea	100.0%		

Table A-22

**Naval Force Tonnage (Thousands)
(All Ships Less Strategic Submarines)
(Including Republic of Korea)**

1991			
	% of NATO & Japan & ROK Total	% of NATO Total	Rank
Belgium	0.3%	0.3%	15
Canada	1.7%	1.9%	11
Denmark	0.3%	0.3%	16
France	5.4%	5.9%	4
Germany	2.6%	2.8%	6
Greece	2.0%	2.2%	9
Italy	2.1%	2.3%	7
Luxembourg	0.0%	0.0%	
Netherlands	1.4%	1.5%	12
Norway	0.6%	0.6%	14
Portugal	0.7%	0.8%	13
Spain	2.1%	2.3%	8
Turkey	2.8%	3.0%	5
United Kingdom	11.0%	12.0%	2
United States	59.0%	64.0%	1
Japan	6.1%		3
Republic of Korea	1.7%		10
Non-U.S. NATO	33.1%	36.0%	
Non-U.S. NATO & Japan	39.3%		
Non-U.S. NATO & Japan & Republic of Korea	41.0%		
Total NATO	92.1%	100.0%	
Total NATO & Japan	98.3%		
Total NATO & Japan & Republic of Korea	100.0%		

Table A-23

**Naval Force Tonnage (Thousands)
(Principal Surface Combatants)
(Including Republic of Korea)**

1991			
	% of NATO & Japan & ROK Total	% of NATO Total	Rank
Belgium	0.4%	0.5%	15
Canada	2.8%	3.2%	10
Denmark	0.2%	0.2%	16
France	6.1%	7.2%	4
Germany	2.6%	3.1%	12
Greece	3.4%	4.0%	7
Italy	3.8%	4.4%	5
Luxembourg	0.0%	0.0%	
Netherlands	2.7%	3.2%	11
Norway	0.9%	1.0%	14
Portugal	1.4%	1.6%	13
Spain	3.0%	3.6%	8
Turkey	2.9%	3.4%	9
United Kingdom	8.6%	10.1%	3
United States	46.4%	54.5%	1
Japan	11.3%		2
Republic of Korea	3.5%		6
Non-U.S. NATO	38.7%	45.5%	
Non-U.S. NATO & Japan	50.0%		
Non-U.S. NATO & Japan & Republic of Korea	53.6%		
Total NATO	85.2%	100.0%	
Total NATO & Japan	96.5%		
Total NATO & Japan & Republic of Korea	100.0%		

Table A-24

Tactical Fixed-Wing Naval Combat Aircraft

(Including Republic of Korea)

1991			
	% of NATO & Japan & Korea Total	% of NATO Total	Rank
Belgium	0.0%	0.0%	
Canada	0.0%	0.0%	
Denmark	0.0%	0.0%	
France	3.9%	3.9%	3
Germany	5.3%	5.3%	2
Greece	0.0%	0.0%	
Italy	0.1%	0.1%	6
Luxembourg	0.0%	0.0%	
Netherlands	0.0%	0.0%	
Norway	0.0%	0.0%	
Portugal	0.0%	0.0%	
Spain	1.0%	1.0%	5
Turkey	0.0%	0.0%	
United Kingdom	1.4%	1.4%	4
United States	88.4%	88.5%	1
Japan	0.0%		
Republic of Korea	0.1%		6
Non-U.S. NATO	11.5%	11.5%	
Non-U.S. NATO & Japan	11.5%		
Non-U.S. NATO & Japan & Republic of Korea	11.6%		
Total NATO	99.9%	100.0%	
Total NATO & Japan	99.9%		
Total NATO & Japan & Republic of Korea	100.0%		

Table A-25

ASW Maritime Patrol Aircraft

(Including Republic of Korea)

1991

	% of NATO & Japan & Korea Total	% of NATO Total	Rank
Belgium	0.0%	0.0%	
Canada	3.4%	4.1%	6
Denmark	0.0%	0.0%	
France	5.6%	6.8%	3
Germany	2.6%	3.2%	9
Greece	1.1%	1.4%	12
Italy	3.4%	4.1%	6
Luxembourg	0.0%	0.0%	
Netherlands	2.4%	2.9%	10
Norway	0.7%	0.9%	14
Portugal	1.1%	1.4%	12
Spain	1.3%	1.6%	11
Turkey	4.1%	5.0%	5
United Kingdom	5.2%	6.3%	4
United States	51.4%	62.4%	1
Japan	14.7%		2
Republic of Korea	3.0%		8
Non-U.S. NATO	30.9%	37.6%	
Non-U.S. NATO & Japan	45.6%		
Non-U.S. NATO & Japan & Republic of Korea	48.6%		
Total NATO	82.3%	100.0%	
Total NATO & Japan	97.0%		
Total NATO & Japan & Republic of Korea	100.0%		

Table A-26
Tactical Air Force Combat Aircraft
(Including Republic of Korea)

1991			
	% of NATO & Japan & ROK Total	% of NATO Total	Rank
Belgium	2.1%	2.3%	12
Canada	1.8%	2.0%	13
Denmark	1.0%	1.1%	15
France	7.8%	8.5%	3
Germany	5.9%	6.4%	5
Greece	4.1%	4.4%	8
Italy	6.2%	6.7%	4
Luxembourg	0.0%	0.0%	
Netherlands	2.4%	2.6%	10
Norway	0.8%	0.9%	16
Portugal	1.0%	1.1%	14
Spain	2.4%	2.6%	10
Turkey	5.0%	5.4%	6
United Kingdom	8.8%	9.6%	2
United States	42.9%	46.6%	1
Japan	3.3%		9
Republic of Korea	4.5%		7
Non-U.S. NATO	49.3%	53.4%	
Non-U.S. NATO & Japan	52.6%		
Non-U.S. NATO & Japan & Republic of Korea	57.1%		
Total NATO	92.2%	100.0%	
Total NATO & Japan	95.5%		
Total NATO & Japan & Republic of Korea	100.0%		

Table A-27

Submarine-Launched Ballistic Missile Tubes

(Including Republic of Korea)

1991

	Quantity	% of NATO & Japan & ROK Total	% of NATO Total	Rank
Belgium	0	0.0%	0.0%	
Canada	0	0.0%	0.0%	
Denmark	0	0.0%	0.0%	
France	96	12.0%	12.0%	2
Germany	0	0.0%	0.0%	
Greece	0	0.0%	0.0%	
Italy	0	0.0%	0.0%	
Luxembourg	0	0.0%	0.0%	
Netherlands	0	0.0%	0.0%	
Norway	0	0.0%	0.0%	
Portugal	0	0.0%	0.0%	
Spain	0	0.0%	0.0%	
Turkey	0	0.0%	0.0%	
United Kingdom	64	8.0%	8.0%	3
United States	640	80.0%	80.0%	1
Japan	0	0.0%		
Republic of Korea	0	0.0%		
Non-U.S. NATO	160	20.0%	20.0%	
Non-U.S. NATO & Japan	160	20.0%		
Non-U.S. NATO & Japan & Republic of Korea	160	20.0%		
Total NATO	800	100.0%	100.0%	
Total NATO & Japan	800	100.0%		
Total NATO & Japan & Republic of Korea	800	100.0%		

Table A-28

**Intercontinental Ballistic Missiles
Intermediate-Range Ballistic Missiles
(Including Republic of Korea)**

1991

	Quantity	% of NATO & Japan & ROK Total	% of NATO Total	Rank
Belgium	0	0.0%	0.0%	
Canada	0	0.0%	0.0%	
Denmark	0	0.0%	0.0%	
France	18	1.8%	1.8%	2
Germany	0	0.0%	0.0%	
Greece	0	0.0%	0.0%	
Italy	0	0.0%	0.0%	
Luxembourg	0	0.0%	0.0%	
Netherlands	0	0.0%	0.0%	
Norway	0	0.0%	0.0%	
Portugal	0	0.0%	0.0%	
Spain	0	0.0%	0.0%	
Turkey	0	0.0%	0.0%	
United Kingdom	0	0.0%	0.0%	
United States	1000	98.2%	98.2%	1
Japan	0	0.0%		
Republic of Korea	0	0.0%		
Non-U.S. NATO	18	1.8%	1.8%	
Non-U.S. NATO & Japan	18	1.8%		
Non-U.S. NATO & Japan & Republic of Korea	18	1.8%		
Total NATO	1018	100.0%	100.0%	
Total NATO & Japan	1018	100.0%		
Total NATO & Japan & Republic of Korea	1018	100.0%		

Table A-29

Strategic Nuclear Bombers

(Including Republic of Korea)

1991				
	Quantity	% of NATO & Japan & ROK Total	% of NATO Total	Rank
Belgium	0	0.0%	0.0%	
Canada	0	0.0%	0.0%	
Denmark	0	0.0%	0.0%	
France	25	7.7%	7.7%	2
Germany	0	0.0%	0.0%	
Greece	0	0.0%	0.0%	
Italy	0	0.0%	0.0%	
Luxembourg	0	0.0%	0.0%	
Netherlands	0	0.0%	0.0%	
Norway	0	0.0%	0.0%	
Portugal	0	0.0%	0.0%	
Spain	0	0.0%	0.0%	
Turkey	0	0.0%	0.0%	
United Kingdom	0	0.0%	0.0%	
United States	301	92.3%	92.3%	1
Japan	0	0.0%		
Republic of Korea	0	0.0%		
Non-U.S. NATO	25	7.7%	7.7%	
Non-U.S. NATO & Japan	25	7.7%		
Non-U.S. NATO & Japan & Republic of Korea	25	7.7%		
Total NATO	326	100.0%	100.0%	
Total NATO & Japan	326	100.0%		
Total NATO & Japan & Republic of Korea	326	100.0%		

Table A-30

Gross Domestic Product
 (1990 Constant Dollars in Billions – 1990 Exchange Rates)
 (Including Republic of Korea)

	1971				1990				
		% of NATO & Japan &ROK	% of NATO	Rank		% of NATO & Japan &ROK	% of NATO	Rank	Quantity Percent Change 71 vs 90
	\$	Total	Total	Rank	\$	Total	Total	Rank	
Belgium	120	1.4%	1.7%	10	193	1.3%	1.6%	11	60.8%
Canada	290	3.4%	4.0%	7	576	3.8%	4.7%	7	98.6%
Denmark	88	1.0%	1.2%	11	131	0.9%	1.1%	12	48.9%
France	709	8.3%	9.8%	4	1191	7.8%	9.8%	4	68.0%
Germany (a)	957	11.2%	13.2%	3	1488	9.8%	12.2%	3	55.5%
Greece	39	0.5%	0.5%	15	67	0.4%	0.6%	15	71.8%
Italy	654	7.6%	9.0%	5	1091	7.2%	9.0%	5	66.8%
Luxembourg	5	0.1%	0.1%	17	9	0.1%	0.1%	17	80.0%
Netherlands	182	2.1%	2.5%	9	278	1.8%	2.3%	9	52.7%
Norway	54	0.6%	0.7%	12	106	0.7%	0.9%	14	96.3%
Portugal	31	0.4%	0.4%	16	60	0.4%	0.5%	16	93.5%
Spain	257	3.0%	3.5%	8	491	3.2%	4.0%	8	91.1%
Turkey	43	0.5%	0.6%	14	108	0.7%	0.9%	13	151.2%
United Kingdom	637	7.4%	8.8%	6	970	6.4%	8.0%	6	52.3%
United States	3181	37.2%	43.9%	1	5391	35.4%	44.4%	1	69.5%
Japan	1262	14.7%	17.4%	2	2859	18.8%	23.5%	2	126.5%
Republic of Korea	48	0.6%	0.7%	13	233	1.5%	1.9%	10	385.4%
Non-U.S. NATO	4066	47.5%	56.1%		6759	44.3%	55.6%		66.2%
Non-U.S. NATO & Japan	5328	62.3%			9618	63.1%			80.5%
Non-U.S. NATO & Japan & Republic of Korea	5376	62.8%			9851	64.6%			83.2%
Total NATO	7247	84.7%	100.0%		12150	79.7%	100.0%		67.7%
Total NATO & Japan	8509	99.4%			15009	98.5%			76.4%
Total NATO & Japan & Republic of Korea	8557	100.0%			15242	100.0%			78.1%

(a) Excludes GDP of former East Germany.

(a) Excludes GDP of former East Germany.

Table A-31

Total Population
(Millions)
(Including Republic of Korea)

	1971				1990				
	% of NATO & Japan & ROK		% of NATO		% of NATO & Japan & ROK		% of NATO		Quantity Percent Change 71 vs 90
	Quantity	Total	Total	Rank	Quantity	Total	Total	Rank	
Belgium	9.7	1.4%	1.7%	12	10.0	1.2%	1.5%	12	3.1%
Canada	21.6	3.0%	3.8%	10	26.6	3.2%	4.0%	10	23.1%
Denmark	5.0	0.7%	0.9%	15	5.1	0.6%	0.8%	15	2.0%
France	51.3	7.2%	9.0%	6	56.4	6.8%	8.5%	7	9.9%
Germany (a)	61.3	8.6%	10.7%	3	63.5	7.7%	9.6%	3	3.6%
Greece	8.8	1.2%	1.5%	14	10.0	1.2%	1.5%	12	13.6%
Italy	54.0	7.6%	9.4%	5	57.6	6.9%	8.7%	4	6.7%
Luxembourg	0.3	0.0%	0.1%	17	0.4	0.0%	0.1%	17	33.3%
Netherlands	13.2	1.9%	2.3%	11	14.9	1.8%	2.2%	11	12.9%
Norway	3.9	0.5%	0.7%	16	4.2	0.5%	0.6%	16	7.7%
Portugal	9.0	1.3%	1.6%	13	9.8	1.2%	1.5%	14	8.9%
Spain	34.2	4.8%	6.0%	8	39.0	4.7%	5.9%	9	14.0%
Turkey	36.6	5.1%	6.4%	7	56.6	6.8%	8.5%	6	54.6%
United Kingdom	55.9	7.9%	9.8%	4	57.4	6.9%	8.7%	5	2.7%
United States	207.7	29.2%	36.3%	1	251.4	30.3%	37.9%	1	21.0%
Japan	105.7	14.9%		2	123.5	14.9%		2	16.8%
Republic of Korea	32.9	4.6%		9	42.9	5.2%		8	30.4%
Non-U.S. NATO	364.8	51.3%	63.7%		411.5	49.6%	62.1%		12.8%
Non-U.S. NATO & Japan	470.5	66.2%			535.0	64.5%			13.7%
Non-U.S. NATO & Japan & Republic of Korea	503.4	70.8%			577.9	69.7%			14.8%
Total NATO	572.5	80.5%	100.0%		662.9	79.9%	100.0%		15.8%
Total NATO & Japan	678.2	95.4%			786.4	94.8%			16.0%
Total NATO & Japan & Republic of Korea	711.1	100.0%			829.3	100.0%			16.6%

(a) Excludes population of former East Germany.

Table A-32

Gross Domestic Product Per Capita
(1990 Constant Dollars – 1990 Exchange Rates)
(Including Republic of Korea)

	1971			1990			Total Percent Change 71 vs 90
	Quantity	% of Highest Nation	Rank	Quantity	% of Highest Nation	Rank	
Belgium	12416	70.0%	9	19339	75.9%	9	55.8%
Canada	13424	75.7%	8	21634	85.0%	6	61.2%
Denmark	17728	100.0%	1	25466	100.0%	1	43.6%
France	13830	78.0%	6	21099	82.9%	8	52.6%
Germany (a)	15616	88.1%	2	23454	92.1%	3	50.2%
Greece	4423	24.9%	14	6642	26.1%	14	50.2%
Italy	12111	68.3%	10	18929	74.3%	10	56.3%
Luxembourg	14148	79.8%	4	22832	89.7%	5	61.4%
Netherlands	13812	77.9%	7	18610	73.1%	11	34.7%
Norway	13851	78.1%	5	25009	98.2%	2	80.6%
Portugal	3407	19.2%	15	6091	23.9%	15	78.8%
Spain	7515	42.4%	13	12606	49.5%	13	67.7%
Turkey	1182	6.7%	17	1917	7.5%	17	62.2%
United Kingdom	11389	64.2%	12	16901	66.4%	12	48.4%
United States	15319	86.4%	3	21446	84.2%	7	40.0%
Japan	11942	67.4%	11	23151	90.9%	4	93.9%
Republic of Korea	1460	8.2%	16	5445	21.4%	16	272.9%
Non-U.S. NATO	11149	62.9%		16420	64.5%		47.3%
Non-U.S. NATO & Japan	11327	63.9%		17973	70.6%		58.7%
Non-U.S. NATO & Japan & Republic of Korea	10682	60.3%		17044	66.9%		59.6%
Total NATO	12662	71.4%		18325	72.0%		44.7%
Total NATO & Japan	12550	70.8%		19083	74.9%		52.1%
Total NATO & Japan & Republic of Korea	12037	67.9%		18378	72.2%		52.7%

(a) Excludes population and GDP of former East Germany.

Table A-33

Per Capita Defense Spending (FY)
(1990 Constant Dollars – 1990 Exchange Rates)
(Including Republic of Korea)

	1971			1990			Total Percent Change 71 vs 90
	\$	% of Highest Nation	Rank	\$	% of Highest Nation	Rank	
Belgium	323	25.6%	10	465	38.4%	8	44.0%
Canada	352	27.9%	8	434	35.8%	9	23.3%
Denmark	467	37.0%	6	516	42.6%	6	10.5%
France	539	42.7%	4	756	62.4%	3	40.3%
Germany (a)	528	41.9%	5	626	51.7%	5	18.6%
Greece	208	16.5%	12	385	31.8%	11	85.1%
Italy	335	26.6%	9	406	33.5%	10	21.2%
Luxembourg	102	8.1%	14	254	21.0%	12	149.0%
Netherlands	444	35.2%	7	497	41.0%	7	11.9%
Norway	573	45.4%	3	800	66.0%	2	39.6%
Portugal	229	18.2%	11	191	15.8%	16	-16.6%
Spain	171	13.6%	13	232	19.1%	14	35.7%
Turkey	39	3.1%	17	94	7.8%	17	141.0%
United Kingdom	702	55.7%	2	675	55.7%	4	-3.8%
United States (b)	1261	100.0%	1	1212	100.0%	1	-3.9%
Japan	99	7.9%	15	233	19.2%	13	135.4%
Republic of Korea	57	4.5%	16	226	18.6%	15	296.5%
Non-U.S. NATO	410	32.5%		472	38.9%		15.1%
Non-U.S. NATO & Japan	340	27.0%		417	34.4%		22.6%
Non-U.S. NATO & Japan & Republic of Korea	322	25.5%		403	33.3%		25.2%
Total NATO	719	57.0%		753	62.1%		4.7%
Total NATO & Japan	622	49.3%		671	55.4%		7.9%
Total NATO & Japan & Republic of Korea	596	47.3%		648	53.5%		8.7%

(a) Excludes 1990 costs for the integration of the former East German military.

(b) Excludes the receipts/costs of Operation Desert/Shield/Storm. Including these receipts/costs result in a per capita defense spending figure of \$1,218.

Table A-34
Budget Deficits (-)/ Surplus
General Government - as a Percent of GDP
(Including Republic of Korea)

	1971			1990			Total Percent Change 71 vs 90
	Percent	% of Highest Nation	Rank	Percent	% of Highest Nation	Rank	
Belgium	-3.2	-74.4%	15	-7.1	-338.1%	13	121.9%
Canada	0.1	2.3%	8	-3.8	-181.0%	9	-3900.0%
Denmark	3.9	90.7%	2	-1.5	-71.4%	5	-138.5%
France	0.7	16.3%	7	-1.6	-76.2%	6	-328.6%
Germany (a)	-0.2	-4.7%	9	-4.1	-195.2%	11	1950.0%
Greece	-2.8	-65.1%	14	-18.7	-890.5%	16	567.9%
Italy	-5.2	-120.9%	16	-10.6	-504.8%	14	103.8%
Luxembourg							
Netherlands	-0.5	-11.6%	11	-4.8	-228.6%	12	860.0%
Norway	4.3	100.0%	1	2.1	100.0%	1	-51.2%
Portugal	2.1	48.8%	3	-11.4	-542.9%	15	-642.9%
Spain	-0.6	-14.0%	12	-3.8	-181.0%	9	533.3%
Turkey	1.9	44.2%	4	-1.8	-85.7%	7	-194.7%
United Kingdom	1.4	32.6%	5	-0.7	-33.3%	3	-150.0%
United States	-1.8	-41.9%	13	-2.4	-114.3%	8	33.3%
Japan	1.3	30.2%	6	2.1	100.0%	1	61.5%
Republic of Korea	-0.3	-7.0%	10	-0.7	-33.3%	3	133.3%

(a) Excludes former East Germany.

Table A-35
Unemployment Rates
(Percent of Labor Force)
(Including Republic of Korea)

	1971			1990			Total Percent Change 71 vs 90
	Percent	% of Highest Nation	Rank	Percent	% of Highest Nation	Rank	
Belgium	2.1	17.6%	11	7.9	49.7%	8	276.2%
Canada	6.1	51.3%	2	8.1	50.9%	6	32.8%
Denmark	1.1	9.2%	15	9.6	60.4%	4	772.7%
France	2.6	21.8%	9	9.0	56.6%	5	246.2%
Germany (a)	0.9	7.6%	16	5.9	37.1%	10	555.6%
Greece	3.1	26.1%	7	8.1	50.9%	6	161.3%
Italy	5.3	44.5%	4	11.0	69.2%	3	107.5%
Luxembourg				1.3	8.2%	17	
Netherlands	1.3	10.9%	13	7.5	47.2%	9	476.9%
Norway	1.5	12.6%	12	5.2	32.7%	13	246.7%
Portugal	2.5	21.0%	10	4.6	28.9%	14	84.0%
Spain	3.1	26.1%	7	15.9	100.0%	1	412.9%
Turkey	11.9	100.0%	1	13.4	84.3%	2	12.6%
United Kingdom	3.9	32.8%	6	5.8	36.5%	11	48.7%
United States	5.8	48.7%	3	5.5	34.6%	12	-5.2%
Japan	1.2	10.1%	14	2.1	13.2%	16	75.0%
Republic of Korea	4.5	37.8%	5	2.5	15.7%	15	-44.4%

(a) Excludes former East Germany.

APPENDIX B

BURDENSARING MEASUREMENT FACTORS

DATA PROBLEMS

Any discussion of burdensharing must rest on comparability of the underlying data. Ultimately all the data must come from the countries concerned, but each has its own budgetary, financial and tax systems. In addition, different methods of recruiting and managing manpower make it difficult to compare personnel costs between and among nations. Problems are created by fluctuations in international exchange rates and differences in the quality and use of inflation indicators. NATO has attempted to deal with some of these problems, e.g., by agreeing on a common definition of what constitutes defense expenditures. NATO has not, however, formally addressed such problems as differences in purchasing power parity, the effects of taxation on defense expenditures, or ways to normalize manpower costs resulting from the use of volunteers or conscripts.

DEFINITION OF DEFENSE EXPENDITURES

The fundamental basis for a comparison of NATO defense efforts is an agreed common definition of defense expenditures. These are defined broadly, for NATO purposes, as expenditures made by national governments specifically to meet the needs of the country's armed forces. Under this definition, expenditures for any given period should represent payments made during that period. For national accounting reasons, the payment is considered made when the money is actually disbursed. Indirect costs, such as loss of revenue caused by tax exemptions on government transactions, are not counted as payments. An example of a non-defense budget item that might be included in the NATO definition is the cost of domestic security forces (assuming they will be under military authority in wartime, have had military training, and are issued military equipment). Other examples would be government contributions to military pension systems and unreimbursed military assistance to other members of the Alliance. Items which would not be included in the NATO definition are, *inter alia*, the cost of war damage, veterans' benefits, civil defense, and stockpiling of strategic materials.

The definition above is substantially complete but does not cover all the possible cases. Any division between defense expenditures and other public outlays which contribute to NATO security is partially and necessarily arbitrary. Aid to developing countries supplements military outlays to the extent that it fosters political cohesion and contributes to free world stability.

Some authorities believe that the cost of defense should be defined in terms of the value of civilian goods and services foregone because of the necessity to spend on defense -- the opportunity costs. The difference between the opportunity costs and the defense expenditure could be significant in the case of the pay of military personnel in countries that rely on conscription, where military pay is lower than the foregone value of their services to the economy. Defense efforts of such countries would be understated in comparison to those of countries with volunteer forces. This distinction holds, however, only when the civilian labor market would offer alternative employment to all conscripted individuals, as in situations of full employment. As unemployment fluctuates in each country the opportunity costs of conscript manpower changes with it.

EXCHANGE RATES

Exchange rate fluctuations exert an important influence on international comparisons of defense burdensharing. For example, a country's defense budget appears to fluctuate when the value of the U.S. dollar changes with respect to the currency of that nation. Nevertheless, the amount of defense a given sum can buy remains the same (within the country) despite the change in terms of the dollar.

In 1990, the key year for financial/economic indicators used in this report, most non-U.S. NATO currencies have remained fairly stable in terms of each other while most have strengthened against the dollar. The Republic of Korea's won weakened against the dollar while the Japanese yen strengthened against the dollar during 1990. Exchange rates have been held constant in this report to minimize the misleading effects of exchange rate fluctuations on burdensharing comparisons. Average yearly exchange rates are used in this report to avoid the inherent problems of using exchange rates that can change significantly at different times during the year.

Exchange rate fluctuations reflect economic and political changes in the supply and demand of currencies, which themselves reflect changing financial and trade relationships among countries. They may also reflect changes in mood or business confidence. Because exchange rates are subject to several economic and political forces, the resulting changes in the costs of stationing troops are not considered costs to the Alliance in burdensharing terms.

It is necessary to find a method to equalize exchange rate fluctuations and the most precise method devised to date is the Purchasing Power Parity (PPP) system. This states the number of units of a country's currency which have the same purchasing power for a category of goods and services as one U.S. dollar has in a given year. This is a good system for comparison between two countries, but becomes much more difficult when three or more are involved.

Another system, developed by the United Nations, is the Country-Product-Dummy (CPD) method which uses a set of "international prices" derived from purchasing power parities. The UN comparisons using these "international prices" reveal a different picture when compared with straight linear exchange rate conversions. The latter method tends to understate real expenditures by other countries relative to the U.S., especially when the dollar is strong.

Because of problems with statistical methodology, NATO uses agreed-upon statistical data and systems in preparing its Defense Planning and Policy Division (DPP) Memorandum: "Basic Statistical Data on the Defense Effort and Economic Developments of NATO Countries". The memorandum employs the International Monetary Fund's exchange rate conversion method to compare national defense expenditures. The NATO International Staff is constantly working on the problem of developing a better methodology to improve its price deflators. This will lead eventually to the development of an agreed PPP system for defense comparisons. In the meantime, NATO makes its comparisons using the best available data, plus other consistent sources, in its annual DPP Memorandum.

THE EFFECTS OF INFLATION ON DEFENSE SPENDING MEASUREMENT

The technique for handling the complex problems of measuring the effects of inflation on defense spending comparisons has become a discipline of its own. The system used in NATO makes

use of a calculated deflator, which makes possible comparisons among several countries with differing exchange rates. Deflators can be computed in different ways and several methods have been developed in attempts to draw valid comparisons and conclusions about the defense outlays of NATO countries, and Japan and the Republic of Korea. None of these is flawless. Nevertheless, the deflator system is the best existing tool to enable quick comparisons to be drawn. Though it is widely used, its methodology is constantly being refined. The deflator allows the most accurate comparisons to be made between the prices and budget outlays of one country with those of another, allowing for each country's rate of inflation.

Inflation can have an important impact on the public's perception of defense spending. While budget outlays in actual amounts continue to increase, the goods and services these amounts buy do not increase at the same rate because of inflation. This is a difficult idea to convey to national electorates who, even if they understand the reasoning behind it, are themselves caught in the squeeze of inflation. In inflationary times, there is strong competition among conflicting interests and programs for budgetary resources. When popular social programs are threatened and inflation adds new burdens to those who are caring for the young, old, sick, and incapacitated, increases in military spending are not politically popular. The effects of inflation on a nation's will to spend scarce resources on defense can be very strong. All NATO countries have had problems with this in the last few years.

RELATION BETWEEN DEFENSE AND OTHER EXPENDITURES

Some of the European members of the Alliance believe that the division between defense and other public expenditures which contribute to security is somewhat arbitrary. Certainly, payments for social purposes, education, investment in economic growth, assistance to developing countries, and so forth, complement military outlays in that they contribute to political cohesion and aid in resisting internal threats. Any other definition of the defense effort would also be open to the charge of being arbitrary as well. While some civilian expenditures also strengthen the defense position of member countries, it is equally true that military outlays, particularly infrastructure security (another product of defense efforts), are necessary prerequisites to prosperity and internal calm, and contribute to development and economic well-being.

BALANCE OF PAYMENTS

For some countries, foreign exchange difficulties have indeed been one of the main obstacles encountered in the defense effort. However, in the case of fairly advanced countries, it is not normally an obstacle of a structural nature, as are the obstacles met by developing countries. Looking only at the military transactions affecting the foreign exchange position would be misleading. Indeed, a relatively large general balance of payments is positive, while even a small deficit on military transactions may seriously add to the balance of payments difficulties experienced by other countries. In short, the problem of the impact of the defense effort on the foreign exchange position of a country has to be examined in the context of its overall external finances, i.e., taking account of the strength of its balance of payments, of its gold and foreign exchange reserves.

INDUSTRIAL IMPACT

Over the years, many programs have been established for the cooperative development and production of NATO weapons. The methods employed have been co-production, dual-production and the "families of weapons" concepts. These programs all involve sharing of R & D expenditures

by individual nations. They are the primary avenue of technology transfer among the nations of the Alliance. Weapons program transfers operate in both directions. For example, the U.S., the United Kingdom, France, and the FRG have signed a Harmonization Agreement to develop future main tank armament systems on the basis of common technical parameters.

In defense equipment trade, the balance is still in the United States' favor. In dollar terms, we sell more equipment to Europe than we buy. This is partly explained by a preponderance of "big ticket" items, e.g., aircraft and missile systems.

CONTRIBUTION OF STATIONED FORCES TO HOST NATION ECONOMY

A tangible benefit to nations where NATO troops are stationed is the hard currency contributions, both official and personal, which go along with the maintenance of large standing forces. Housing, food supplies and energy are a few of the major expenditures which are largely bought from the host country. Support services and administration are also largely staffed by nationals of the host country, making military bases important employers in several nations. In the forty-seven years since the end of World War II, the economies of many communities in Western Europe have become tightly linked to the spending patterns of local base administrations. Local economies also benefit from base-related priorities for internal redistribution -- where national governments spend important sums locally in support of facilities on their own soil. While this does not add to the total income of the nations, it has important local effects.

APPENDIX C

FOREIGN PARTICIPATION IN OPERATIONS DESERT SHIELD AND DESERT STORM

OVERVIEW

On 2 August 1990, without provocation, Iraq invaded the sovereign nation of Kuwait. Saudi Arabia, alarmed by the Iraqi invasion, and sensing a possible incursion, asked the United States to aid in its defense. On 8 August, a U. S. Ready Brigade was deployed to Saudi Arabia under the code name Operation Desert Shield, and thus began a massive movement of coalition men and materiel to defend Saudi Arabia.

As a result of several United Nations mandates, and after Iraq failed to withdraw from Kuwait, Operation Desert Storm began on 16 January 1991. Desert Storm was an operation designed to remove Iraqi forces from Kuwait, as called for in several United Nations resolutions. After an intensive air campaign, we and our allies began the ground offensive on 23 February, which lasted less than four days.

RESPONSIBILITY-SHARING TO SUPPORT UNITED STATES OPERATIONS

The commitment of more than 500,000 troops and associated equipment in Operations Desert Shield and Desert Storm involved large U.S. financial obligations. The U.S. made its force commitments without regard to whether other countries would offset any of these costs. Nevertheless, in recognition of the shared responsibility of confronting Iraqi aggression, U.S. friends and allies made financial and other contributions of historic proportions to offset incremental U.S. defense costs.

Total U.S. defense costs associated with Operations Desert Shield and Desert Storm consisted of three elements:

- Costs associated with the investment in the force structure used in Operations Desert Shield and Desert Storm;
- Baseline operating costs for that force structure; and,
- Incremental costs (costs that would not otherwise have been incurred) associated with deploying, operating and supporting forces used in these operations.

Through DOD's annual planning, programming and budget process, the U.S. already had determined that national security required undertaking the first two categories of costs. These expenses would have been borne even in the absence of Iraq's invasion of Kuwait. However, coalition partners in Operations Desert Shield and Desert Storm recognized that one important area of shared responsibility in defeating Iraqi aggression was to help finance U.S. incremental defense costs.

Total U.S. incremental costs for these operations are estimated at \$61.1 billion dollars. Without responsibility-sharing, the U.S. would have had to pay these costs either through a tax increase or through deficit spending, adding to the nation's fiscal difficulties. Instead, in 1990 and 1991, U. S. friends and allies committed almost \$54 billion dollars to offset these costs. Roughly two-thirds of these commitments were from Persian Gulf states directly confronted by Iraq, with the other one-third coming largely from Japan and Germany. As shown in Table C-1, by 13 April 1992, the U.S. had received \$53.7 billion dollars (over \$48 billion dollars in cash) and all allied commitments for these operations had been fulfilled. This amount would rank, by a considerable margin, as the third largest defense budget in the world.

**TABLE C-1: FOREIGN CONTRIBUTIONS PLEDGED IN 1990 AND 1991 TO OFFSET US
DESERT SHIELD/STORM COSTS**
(Millions of Dollars)

Countries	Commitments	<u>Receipts*</u>		Total
		Cash	In-kind	
Saudi Arabia	16,839	12,809	4,030	16,839
Kuwait**	16,057	16,015	43	16,058
UAE	4,088	3,870	218	4,088
Japan	10,012	9,441	571	10,012
Germany***	6,572	5,772	683	6,455
Korea****	355	150	101	251
Other	29	7	22	29
Total	53,952	48,064	5,669	53,733

NOTES: * Cash receipts are as of 13 April 1992. In-kind receipts are as of 31 March 1992. Totals may not add due to rounding.

** While the commitment has been met, Kuwait is continuing to provide assistance-in-kind to U.S. forces remaining in country.

*** Germany fulfilled its commitment. Germany made available for donation to the U.S. over \$200 million dollars' worth of ammunition, which we chose not to accept due to the termination of the war.

**** Korea fulfilled its commitment. The total commitment could not be fully utilized by the U.S. for operational requirements. Korea has agreed to provide in-kind support for non-Desert Shield/Storm projects in FY 1992 in an amount equivalent to the difference.

While these historic contributions clearly served a very important role in offsetting the significant financial costs of these operations, they also served valuable political purposes. First, they enabled Japan and Germany to make major contributions to the anti-Iraq coalition within their domestic political and legal constraints. This has served as an important step in helping these two countries overcome obstacles they face in undertaking international political and security responsibilities commensurate with their economic stature. Second, allied contributions served as additional proof that Iraq was confronting not just the U.S., but a worldwide, politically-united coalition, willing to pay the costs of confronting aggression. Finally, financial responsibility-sharing gave the contributing countries a vested interest in working to achieve lasting peace among Middle Eastern nations. The discussion below outlines some details involved in responsibility-sharing contributions to these operations.

RESPONSIBILITY-SHARING FOR CALENDAR YEAR 1990 FOR DESERT SHIELD INCREMENTAL COSTS

To encourage other nations to assume their fair share of responsibility for opposing Iraqi aggression, the President sent two simultaneous missions abroad in early September 1990. The first was headed by the Secretary of the Treasury and included the Deputy Secretary of State and the Under Secretary of Defense for Policy. This mission visited the United Kingdom, France, South Korea and Japan to discuss coalition contributions. The second mission was headed by the Secretary of State and included the Deputy Secretary of the Treasury and the Deputy Secretary of Defense. This mission visited Saudi Arabia, the Kuwaiti Government in Exile, the United Arab Emirates (UAE), Egypt, Brussels (North Atlantic Treaty Organization and the European Community), Italy and Germany to discuss contributions to the coalition effort.

During and shortly after these Presidential missions, various commitments were made to help multinational forces in general and, in particular, to offset U.S. incremental costs of Desert Shield. As a result of these missions and other consultations with foreign nations through diplomatic channels, commitments to the U.S. came in three principal forms: cash, in-kind airlift and sealift, and in-kind materiel and equipment. In late September 1990, as part of the Supplemental Appropriations for Operation Desert Shield in the Fiscal Year 1991 Continuing Resolution, Congress established the Defense Cooperation Account (DCA) to receive deposits of monetary contributions (Section 2608, Chapter 155, Title 10 USC). Use of DCA funds was made subject to Congressional authorization and appropriation. Funds deposited in the DCA were authorized to be invested in U.S. securities with interest deposited in the DCA.

Specific commitments by the principal foreign government contributors toward Calendar Year (CY) 1990 U.S. incremental operational costs were as follows:

- Saudi Arabia agreed to provide, at no cost to the U.S. all fuel, food, water, local transportation and facilities for all U.S. forces in the Kingdom and surrounding waters. This host nation support (HNS) commitment was implemented through an arrangement between the U.S. Central Command (CENTCOM) J-4 and the Saudi military, entitled *Implementation Plan for Logistics Support in Defense of the Kingdom of Saudi Arabia*. Later in CY 1990, Saudi Arabia also committed to reimburse the U.S. for enroute transportation costs associated with the second deployment of U.S. forces to the region.
- Japan committed to provide \$2 billion dollars to the multinational forces, including about \$1.7 billion dollars for U.S. incremental costs. This \$1.7 billion dollars was allocated among various forms: cash to cover transportation expenses, in-kind materiel and equipment support, and in-kind airlift and sealift.
- Germany agreed to provide about \$1 billion dollars' worth of support, including cash for U.S. transportation expenses, in-kind lift support and in-kind equipment and other materiel from its defense stocks (the bulk of the commitment).
- Kuwait agreed to provide \$2.5 billion in cash and some limited in-kind lift.
- The UAE committed to provide \$1 billion dollars of support composed of cash and in-kind HNS for U.S. forces in the UAE (e.g., food, water, facilities, fuel and local transportation).

- Korea agreed to provide \$80 million for U.S. incremental costs, consisting of \$50 million dollars in cash and \$30 million dollars' worth of in-kind lift.
- Several other countries provided smaller, but nonetheless important contributions to offset U.S. incremental costs for this operation. This included no-cost HNS by Oman, Bahrain and Qatar, and in-kind sealift contributions from Denmark.

These CY 1990 operational commitments and receipts are outlined in Table C-2.

TABLE C-2: 1990: FOREIGN CONTRIBUTIONS PLEDGED TO OFFSET U. S. DESERT SHIELD COSTS
(Millions of Dollars)

Countries	Commitments	<u>Receipts*</u>		Total
		Cash	In-kind	
Saudi Arabia	3,339	2,428	912	3,339
Kuwait	2,506	2,500	6	2,506
UAE	1,000	870	130	1,000
Japan	1,680	1,109	571	1,680
Germany**	1,072	272	683	955
Korea	80	50	30	80
Other	3	0	3	3
Total	9,680	7,228	2,335	9,563

NOTES: * Cash receipts are as of 13 April 1992. In-kind receipts are as of 31 March 1992. Totals may not add due to rounding.

** Germany fulfilled its commitment. Germany made available for donation to the U.S. over \$200 million dollars' worth of ammunition, which we chose not to accept due to the termination of the war.

RESPONSIBILITY-SHARING FOR CALENDAR YEAR 1991 FOR DESERT SHIELD /DESERT STORM INCREMENTAL COSTS

When it became apparent that Operation Desert Shield would extend into 1991, and with the growing likelihood of military conflict, consultations were conducted with the major foreign contributors to U.S. incremental costs to discuss additional 1991 commitments. Subsequently, the following commitments were made against Operation Desert Shield and what followed as Desert Storm:

- Saudi Arabia agreed to continue providing in-kind HNS and to pay \$13.5 billion in cash (less the value of the in-kind HNS).
- The UAE committed to pay \$3 billion in cash and to continue providing in-kind HNS in addition to the cash commitment.
- Kuwait agreed to pay \$13.5 billion in cash and to provide come in-kind lift.

- Japan committed to provide \$9 billion to the multinational forces, of which \$8.3 billion in cash was pledged to the U.S.
- Germany provided \$5.5 billion in cash.
- Korea committed \$275 million dollars to the U.S., made up of cash, in-kind materiel and in-kind air- and sealift.
- Smaller contributions from other countries also increased during Operation Desert Storm. These included no-cost HNS from Oman, Bahrain and Qatar, and cash and in-kind contributions from Italy, Denmark, Luxembourg, Belgium and Norway.

Table C-3 shows the status of commitments and receipts for CY 1991 Operations Desert Shield/Storm responsibility-sharing to offset U.S. incremental costs.

FIGURE C-3: 1991: FOREIGN CONTRIBUTIONS PLEDGED TO OFFSET U.S. DESERT SHIELD/STORM COSTS
(Millions of Dollars)

Countries	Commitments	<u>Receipts*</u>		Total
		Cash	In-kind	
Saudi Arabia	13,500	10,381	3,119	13,500
Kuwait**	13,551	13,515	37	13,552
UAE	3,088	3,000	88	3,088
Japan	8,332	8,332	0	8,332
Germany	5,500	5,500	0	5,500
Korea***	275	100	71	171
Other	26	7	19	26
Total	44,272	40,836	3,334	44,169

NOTES: * Cash receipts are as of 13 April 1992. In-kind receipts are as of 31 March 1992. Totals may not add due to rounding.

** While the commitment has been met, Kuwait is continuing to provide assistance-in-kind to U.S. forces remaining in-country.

*** Korea fulfilled its commitment. The total commitment could not be fully utilized by the U.S. for Desert Shield/Storm requirements. Korea has agreed to provide in-kind assistance for non-Desert Shield/Storm projects in FY 1992 in an amount equivalent to the difference.

IN-KIND CONTRIBUTIONS OTHER THAN HOST NATION SUPPORT

Aside from cash and HNS, several countries contributed airlift, sealift and materiel and supplies on an in-kind basis. U.S. Transportation Command worked with foreign governments in conjunction with elements of the relevant unified commands (i.e., EUCOM in the Europe-Atlantic region, and PACOM in the Asia-Pacific region) and U.S. embassies to match U.S. requirements with the contributed lift capabilities. In the case of in-kind equipment, materiel and supplies, CENTCOM established requirements and worked through relevant unified commands and U.S. embassies to

match these requirements with foreign government offers. Each country's donation had different features in terms of coverage and scope of the in-kind assistance provided.

EQUIPMENT, MATERIEL AND SUPPLIES

Contributions of in-kind equipment, materiel and supplies varied by country. As noted above, these contributions were only accepted against established CENTCOM requirements. The following examples of Germany and Japan demonstrate the differing approaches to in-kind assistance.

Germany provided almost \$550 million dollars' worth of equipment and materiel from existing Defense Ministry stocks. CENTCOM worked with the European Command and the U.S. Embassy in Bonn to match these stocks with established requirements. Germany also provided 60 new *Fuchs* nuclear, biological and chemical (NBC) detection vehicles worth over \$130 million dollars. This contribution strengthened U.S. abilities to operate in an NBC environment. Germany also provided heavy equipment transporters which helped fill a serious shortfall in U.S. mobility capabilities. Other in-kind contributions included ammunition, chemical protective gear, many types of transport and material handling equipment (MHE), bulldozers and miscellaneous supplies (i.e., water cans, tents and medical equipment).

Japan also provided almost \$500 million dollars' worth of in-kind equipment, materiel and supplies. Unlike Germany, however, the Japanese contracted directly with suppliers for delivery of items. Japan worked closely with US Forces Japan and CENTCOM to identify requirements. More than 80 percent of the contracted equipment and supplies was made in the U.S., or provided by U.S. suppliers. Examples of the types of in-kind support provided include computer equipment, vehicles, construction equipment and materials, and communications equipment.

IN-KIND AIRLIFT AND SEALIFT

Several countries provided in-kind airlift and sealift support. These lift contributions provided important additional assets to help accomplish the tremendous operation of rapidly transporting U.S. forces and equipment half-way around the world. Table C-4 shows the total number of mission/sailings and the total value of in-kind lift provided by each country.

TABLE C-4: IN-KIND DONATIONS OF AIRLIFT AND SEALIFT

Country	<u>Donated Airlift</u>	<u>Donated Sealift</u>
	# Missions/Value (\$000)	# Ship Days/Value (\$000)
Korea	89/45,350	1,376/35,700
Japan	119/46,893	420/34,900
Kuwait	1/261	1,334/35,591
Denmark	0/0	*/11,557
Luxembourg	18/6,317	0/0
Italy	23/1,602	0/0
Total	250/100,423	3,130/118,748

* Denmark donated space available on ships.

FOREIGN MILITARY PARTICIPATION IN OPERATIONS DESERT SHIELD/STORM

U.S. friends and allies participated in Operations Desert Shield and Desert Storm in many ways beyond defraying the incremental costs associated with the deployment of U.S. forces. Britain and France fielded ground troops, while Canada, Belgium, Germany and Italy contributed combat aircraft and support. In all, the NATO allies committed some 65,000 men, 70 naval combatants, over 250 combat aircraft and over 200 tanks.

In defense of Turkey, NATO deployed AWACS aircraft and the ACE Mobile Force (Air) -- a combined force of Italian, Belgian and German aircraft under NATO operational control. NATO's On-call Force Mediterranean patrolled in the eastern Mediterranean Sea, and the Standing Naval Force of the Alliance re-positioned to areas where they could more readily be deployed for Mediterranean contingencies. Finally, 12 NATO nations -- all allies who have navies -- sent ships to provide various kinds of support.

NATO coordination enhanced the above NATO military contributions. NATO also provided crisis management services and logistics support. Germany, Italy, Spain, Norway and the UK provided strategic air- and sealift at no cost. Allies allowed U.S. aircraft to operate from important U.S. military bases on their territory and from their own military and civil airfields.